The MODERN HOSPITAL

Vol. II *May, 1914* No. 5

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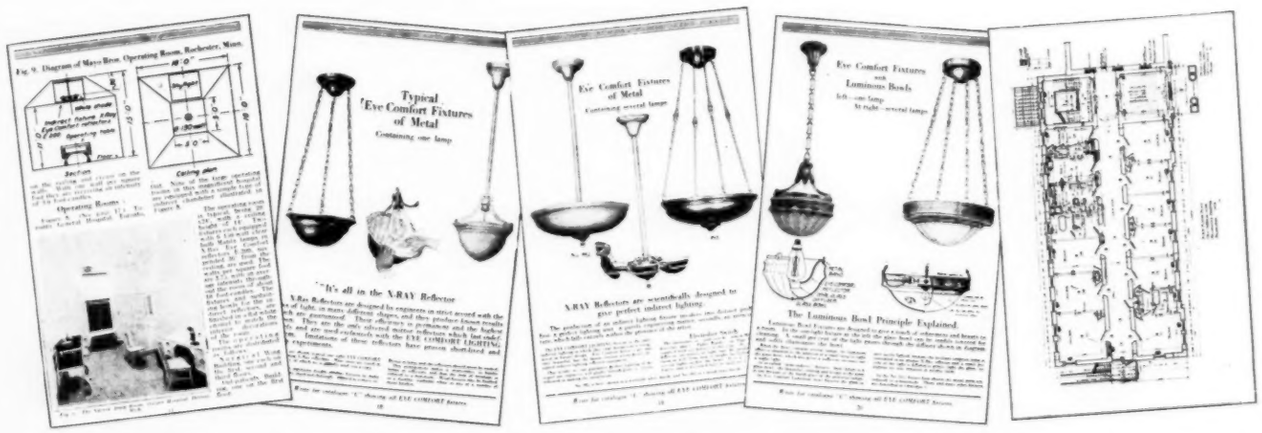

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THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, ana Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

Vol. II *May, 1914* No. 5

THE ELIZABETH STEEL MAGEE HOSPITAL OF PITTSBURGH.

A Modern Hospital for Women Founded and Endowed by the Late Christopher L. Magee —Has Many New Features and Possibilities of a Wide Influence.

By CHARLES EDWARD ZIEGLER, A. M., M. D.,
MEDICAL DIRECTOR AND PROFESSOR OF OBSTETRICS, UNIVERSITY OF PITTSBURGH MEDICAL SCHOOL,
AND T. E. BILLQUIST, ARCHITECT, PITTSBURGH, PA.

THE late Hon. Christopher Lymann Magee, of Pittsburgh, left practically his entire estate of $3,500,000 for the building, equipment, and endowment of a hospital to be erected in memory of his mother. His homestead, consisting of a large frame dwelling, surrounded by ten acres of beautiful landscape gardens, and located in the residence section of the city, was left as the site for the new hospital. The administration of Mr. Magee's estate was intrusted by his will to a board of thirteen trustees. As his surviving widow was left the income of his estate during her life, it was not until her death, five years ago, that the funds became available for the use of the hospital.

The nature of the hospital to be erected was not definitely specified by Mr. Magee, but the original intention was to build a general hospital. Investigation, however, revealed the fact that over 30 percent of the beds in the general hospitals of Pittsburgh were unoccupied, so that there existed no need for additional general hospital accommodations. A clause in the will, moreover, directed that there be admitted to the hospital "all females who may apply for admission thereto for lying-in purposes," who were to be received without any questions being asked as to their past lives or identity. On the basis of this, the only definite provision of the will, the trustees decided to build a hospital exclusively for women. This decision was most acceptable to the community, as no other similar institution exists in the city.

In coming to a decision as to the organization and conduct of the new hospital, the trustees showed rare good business sense in securing the best obtainable advice. Letters were sent to the leading obstetricians in the country holding the chairs of obstetrics in the leading medical schools. Replies were received from the following: Dr. J. Whitridge Williams, Johns Hopkins University; Dr. Barton Cooke Hirst, University of Pennsylvania; Dr. E. B. Cragin, Columbia University; Dr. J. Clifton Edgar, Cornell University; Dr. Charles M. Green, Harvard University; Dr. Reuben Peterson, Ann Arbor University; Dr. Joseph B. DeLee, Northwestern University; and Dr. J. Clarence Webster, University of Chicago. These gentlemen were practically a unit in recommending that the hospital be made a teaching institution, that there should be a single head in the person of a medical director, and that the hospital should care for both obstetric and gynecologic cases—a hospital for women, therefore, modeled after the well-known "Frauenkliniks" of Germany. A committee of the trustees later visited a number of the gentlemen above mentioned, with the result that the decision was soon reached to build a hospital based on the recommendations received.

This beginning was soon followed by the election of a medical director, and, on his recommendation, affiliation was established with the medical school of the University of Pittsburgh, making the hospital a teaching institution. The Magee residence was altered and equipped as a temporary hospital, and was opened January 19, 1911, for the reception of patients. To date over 1,300 obstetric and gynecologic patients have been cared for in this temporary institution, which is now to be supplanted by the new hospital. With the se-

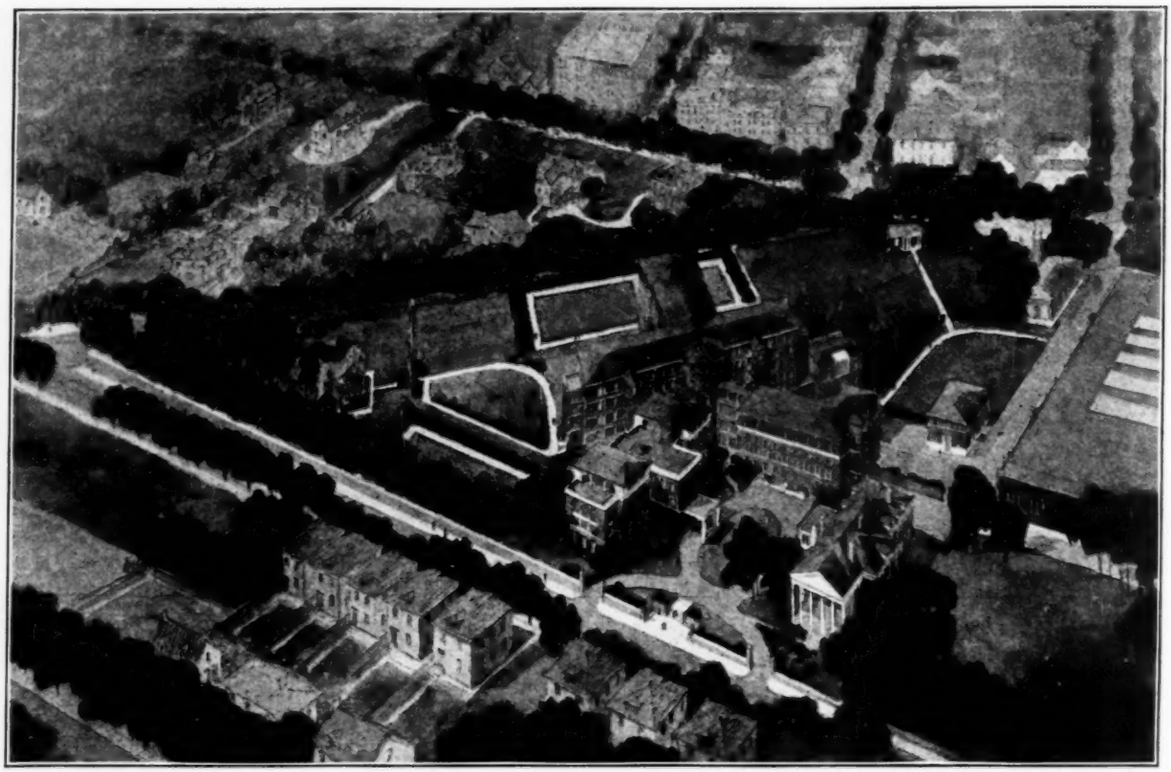

Fig. 1. Elizabeth Steel Magee Hospital—General plan and surroundings.

lection of the architect, the collection of a large amount of data and the preparation of preliminary plans were begun. Three years, more or less, have been devoted to the completion of the plans. After much waiting and many trying, but unavoidable, delays ground was finally broken on January 12, 1914, and the work of construction is progressing rapidly.

The hospital owes much to advice and criticism received from many helpful sources during the preparation of the plans, and especially to Dr. J. Whitridge Williams, of Baltimore. It is but just to say that it is due to Dr. Williams more than to any other one individual that Pittsburgh is to have the first typical frauenklinik to be erected in this country. The hospital was most fortunate also in securing the services of Dr. S. S. Goldwater, of New York, to whom credit is given for much invaluable assistance in working out the service and administrative features as set forth in the plans.

The new hospital will have accommodations for 140 adult patients and 80 babies. There will be 21 private rooms and accommodations for 37 ante-

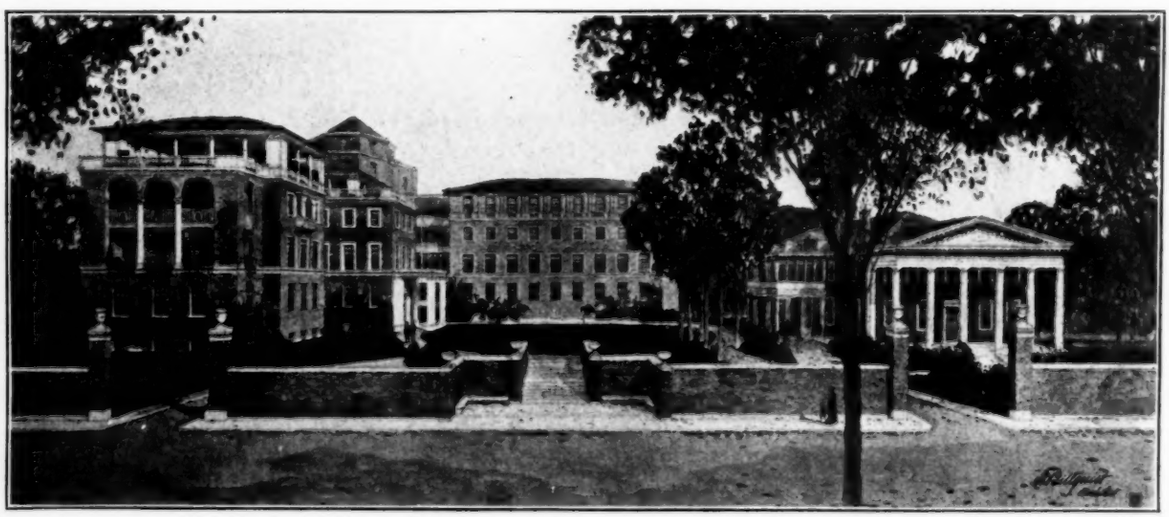

Fig. 2. Elizabeth Steel Magee Hospital—Perspective view of central building.

partum and 82 puerperal and gynecologic patients in the wards. Inasmuch as each baby requires just half the space given to an adult patient, the accommodations of the hospital, in terms of adults, may be said to be 175 patients. The cost of the hospital equipped will not exceed $650,000, or a cost of $3,700 per bed.

Provision has been made for future additions to the hospital. Two stories may be added to each of three wings and one story to each of the remaining two wings, or an addition of 125 beds, at an estimated cost of $800 per bed. In other words, the completed hospital, with accommodations for 300 adult patients, will cost $750,000, or $2,500 per bed. It is confidently asserted that no hospital of an equally complex nature, containing so many valuable features of construction and equipment, has ever been erected in this country at an equally low cost.

The new institution will be exceptionally well equipped for the care of the class of patients admitted and peculiarly adapted for teaching and research purposes, having an operating and teaching amphitheater, examining rooms, operating rooms, labor and delivery rooms, research laboratories, a medical library, a museum, and the necessary offices and other rooms for the medical director and his assistants. There will also be rooms for photography, x-ray, and hydrotherapeutic departments, and an isolation department for the treatment of infected cases, with the necessary operating and sterilizing rooms, etc. There will also be a number of "screened-in" open-air porches, sun parlors, and roof gardens, and the hospital will be surrounded by separated and isolated gardens for private patients, ward patients, physicians, nurses, and servants, respectively.

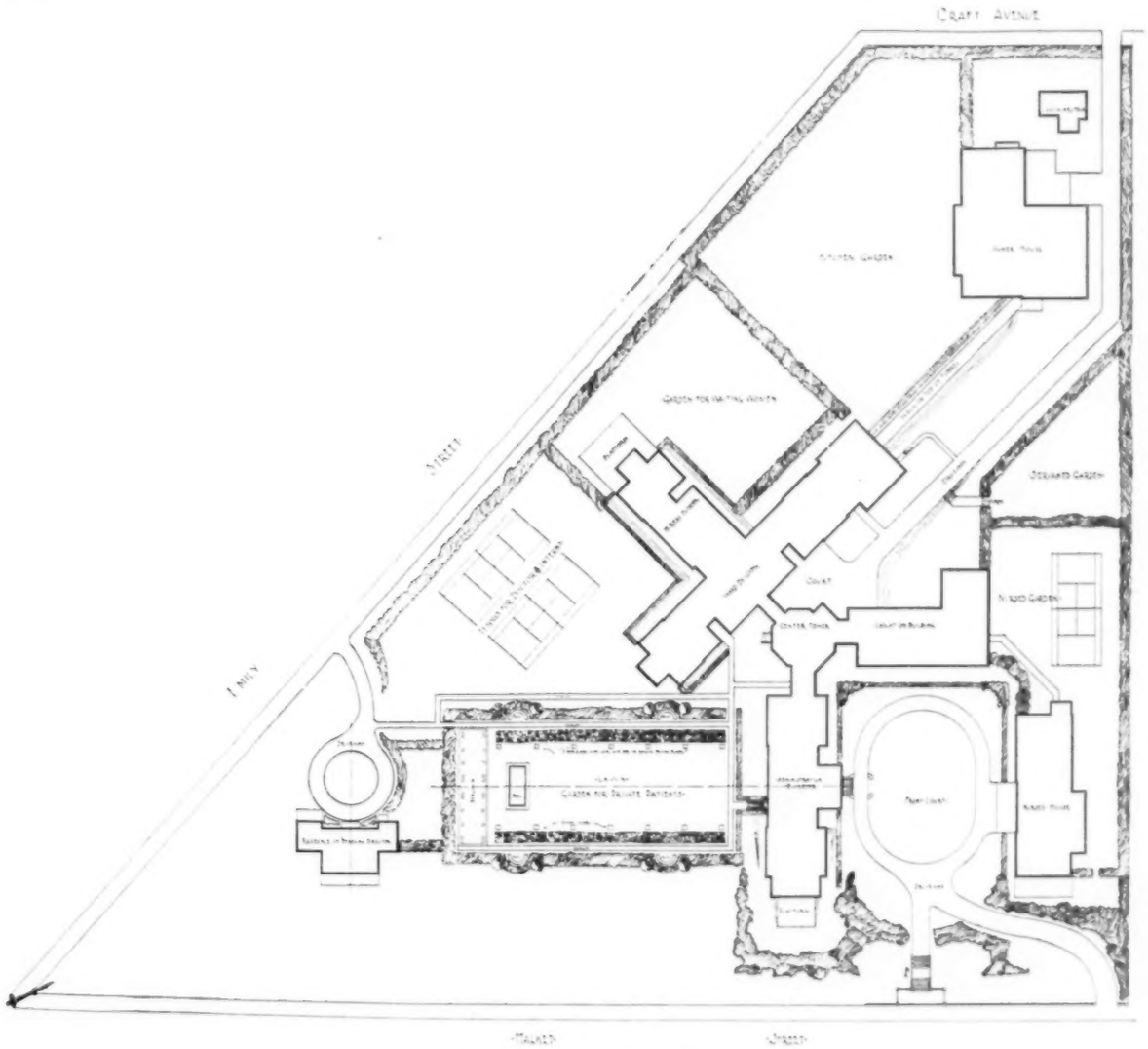

Fig. 3. Elizabeth Steel Magee Hospital—Ground plan of group of buildings.

The hospital group consists of three buildings connected by a central elevator and staircase tower. Reference to the plot plan will make clear

the arrangement and shape of these buildings. The administration building, the elevator and staircase tower, the service building with isolation ward, and the present temporary hospital—to be changed into a nurses' home later—form a court which faces northeast and opens on Halket street. South of the tower is the ward building, consisting of three wings, one wing running directly south, another directly east, and the third directly west. Every room is actually an outside room, ward building are almost wholly above ground and are surrounded by wide areaways, making them entirely sanitary and quite satisfactory for the purposes to which they will be put.

The main entrance to the hospital is from Halket street by way of the front court. The service entrance, which is used also for admission to the amphitheater, is from Craft avenue and terminates in the rear court between the isolation building and the west wing of the ward building. An

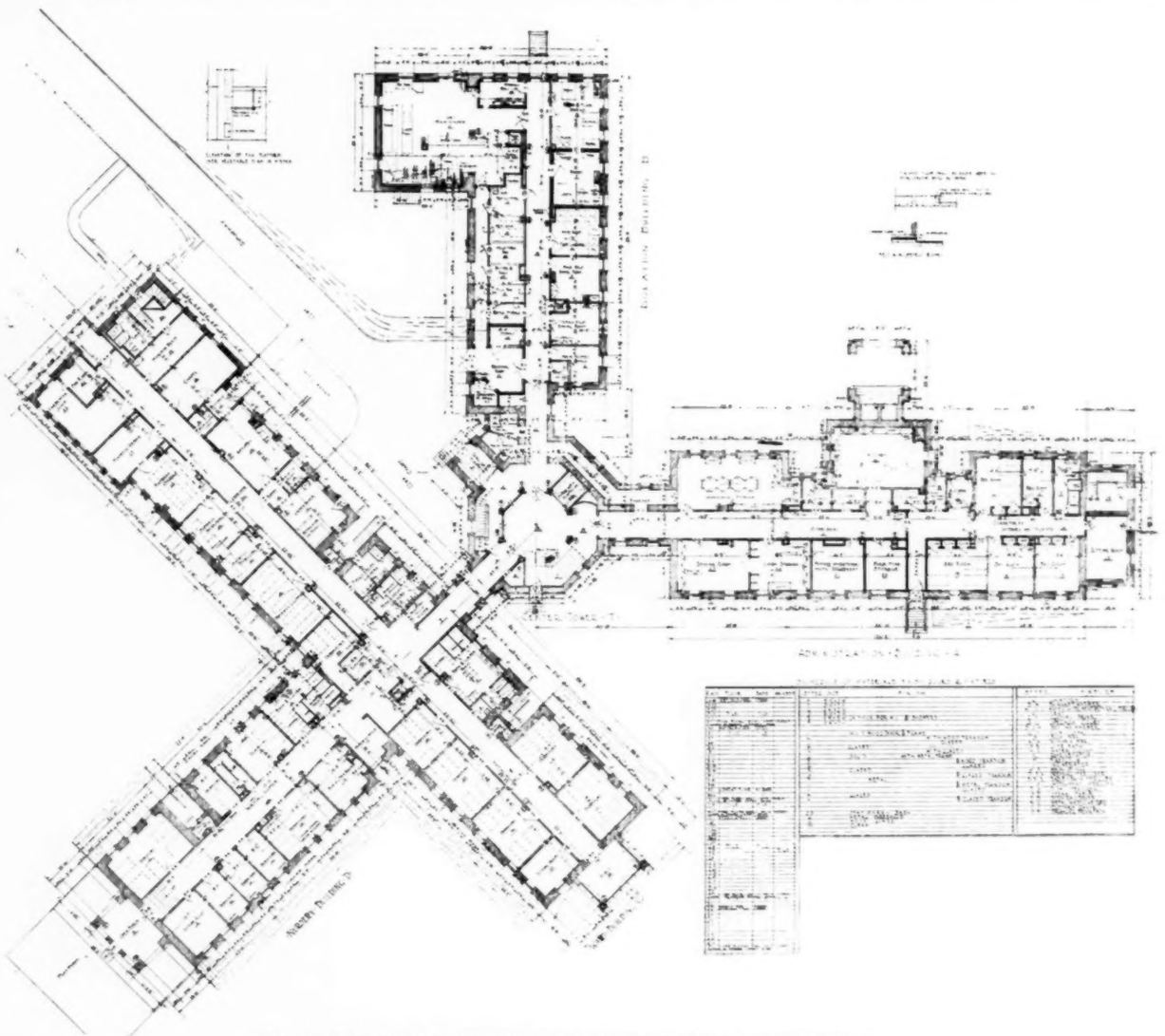

Fig. 4. Elizabeth Steel Magee Hospital—Basement plan of central building.

and it will be noted that the service rooms, toilets, lavatories, etc., are located on the north side of the building in each case, leaving the southern, eastern, and western exposures for the wards and private rooms. The administration building and the isolation building are each four stories high above the basement; the three-pointed ward building is three stories high above the basement, with a roof garden on the fourth floor of the wing running south. The basements of the administration building and of the south and east wings of the underground tunnel leads from the hospital buildings to the power building, which is situated near Craft avenue. In the power building are the boilers, pumps, sterilizing plant, engines, generators, refrigerating plant, and laundry. The boilers are in batteries, with a total horsepower of 625, and of the tubular type, with chain grate stokers. There are three steam engines and three generators. Of the latter, two generate 110 K. W. each and the other 50 K. W.

The heating system will use the exhaust steam,

with vacuum pumps on the returns. Practically the entire heating system is direct radiation, with the exception of the operating and incubator rooms, which are supplied with indirect heating. All radiators are hung on the wall and are of the hospital type. Wherever possible, dependence will be placed on natural ventilation, established through transoms and window ventilators. This will be supplemented by artificial ventilation in the wards, work rooms, service rooms, toilet rooms, kitchens, operating and delivery rooms, sterilizer, which will sterilize all the water used in the hospital, except that of the laundry and power plant. The sterilized water will be stored in an air-tight, dirt-proof tank, with a capacity of 19,000 gallons. From this tank pumps will force the water through the line under a pressure of 80 pounds, which will be maintained at all times. The drinking water will be carried by a separate pipe system, feeding cold sterilized water to the drinking fountains, located one on each floor in each building. The hot water will be heated with

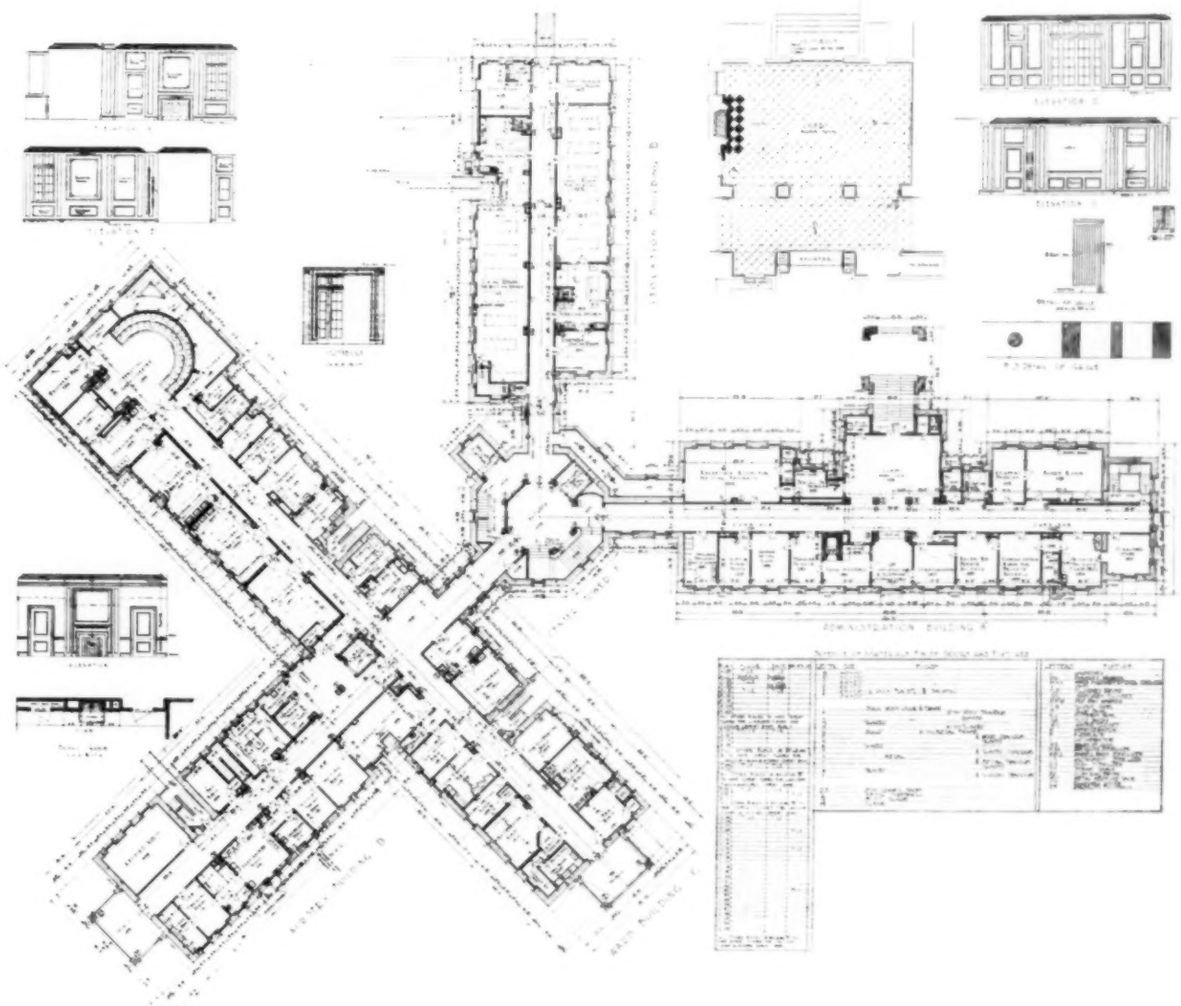

Fig. 5. Elizabeth Steel Magee Hospital—First floor plan of central building.

the incubator room, and autopsy rooms, from which the contaminated air will be removed through ducts by means of fans located in the attic. By means of fans also fresh air filtered through gauze will be forced into the amphitheater and incubator room.

The refrigerating system is the absorption system, and will take care of all the refrigerating boxes and rooms throughout the hospital and also the cooling of the drinking water. The water system consists of a 1,500-gallon per hour Forbes two large Kelly heaters, using exhaust steam. A return system will be connected with the heaters, giving thereby uniform hot water to every fixture throughout.

All plumbing fixtures will be hung on the wall by means of the Mann Manufacturing Company's latest improved hangers. All scrub-up sinks will be equipped with special knee-valves, three to each fixture, by means of which water of any desired temperature and in any desired amount may be secured—one valve for the hot water, another for

the cold, and a third for the supply. The babies' baths will be of special construction, consisting of a center sink 20x14 inches, a 13-inch bowl on either side draining into the sink, and two cork drain boards 4 feet long, 24 inches wide, and 2 inches thick, with circular openings cut into them over the bowls. These drain boards have 1-inch raised edges, are slightly elevated at their distal ends to favor drainage into the bowls, and are hinged so that they may be raised to the wall. Each board is supplied with the special knee-valves as described, and a temperature control with a rose spray.

(Chicago) make, and with flush Dahlstrom metal covered doors. The doors, with but few exceptions, will be 4 feet wide and will be provided with 1 foot 9 inch high flush wood transoms.

All outside windows are provided with glazed wood transoms, hinged at the bottom and equipped with wood wedge-shaped side shields, to provide natural ventilation without objectionable down draughts by throwing fresh air against the ceiling. The glazed wood transoms over double hung window sashes will be supported, when open, on angle irons fastened with hinges, so the transom may be dropped for cleaning.

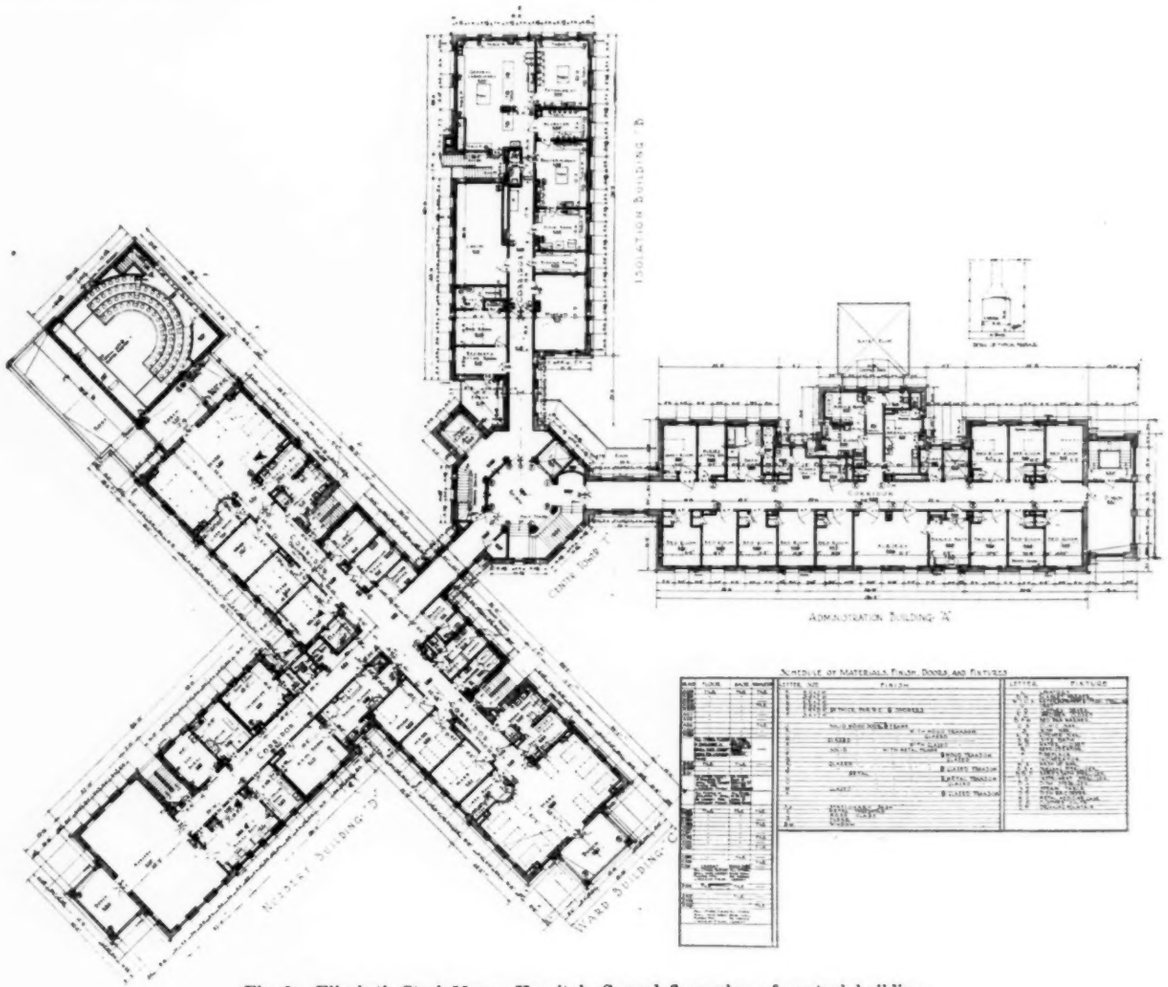

Fig. 6. Elizabeth Steel Magee Hospital—Second floor plan of central building.

The lighting of the hospital consists of a 110-volt current supplied from the power house generators.

All interior finish will be of plain white oak. All doors will be flush, without panels. The door frames will be wood throughout, with perfectly plain 3-inch wide trims, with rounded corners, except the door frames in exposed places, both in the basement and throughout the building, where iron door frames will be used, which are flush with the finished plaster, of the J. G. Braun

All framing is of structural steel, supporting tile and reinforced concrete fireproof floors. The brick foundation and exterior walls are supported on a concrete foundation. Dampproofing course extends under the entire building and against so much of the outside foundation walls as are below the ground level. The exterior walls will be faced with a rough, plain red brick, laid with sunk joints. Window sills, cornice molds, etc., will be made of glazed terra-cotta.

Concrete, placed on top of fireproof floor con-

struction, will be finished to an exact level to form a perfectly true and smooth foundation for a finished flooring of the Rixdorfer extra heavy battleship linoleum, to be glued down to the concrete over an isolation layer; the joints in the linoleum to be microscopic. Flat roofs are to be laid with red Akron tile, and sloping roofs with peach bottom slate.

The stories throughout are 12 feet in the clear. The corridors are 8 feet wide. The walls will be finished in smooth plaster and painted with cold water paint, except the operating rooms, labor rooms, etc., which will be finished in white enamel. The floors of the toilet rooms, work rooms, all operating departments, kitchens, serving rooms, etc., will be laid with white hexagon tiles 1½ inches in diameter. White Vermont marble partitions are provided for the shower bath and water closet alcoves, with glazed tile wall wainscot of the same height.

The signal system for the patients is a silent lamp system of the Holtzer-Cabot make, arranged so that a patient, in ward or private room, pushing a button will cause a light to show over the door of the ward or room, and also in the work room, diet kitchen, and head nurse's office. The call system for physicians and nurses is that used in the Presbyterian Hospital, Chicago. The message is sent by the telephone operator, using an especially devised instrument which transmits it simultaneously throughout the hospital to every corridor on every floor, where it is delivered by a small phonograph horn, in the ordinary tone of voice, carrying well, but without being objectionable or annoying.

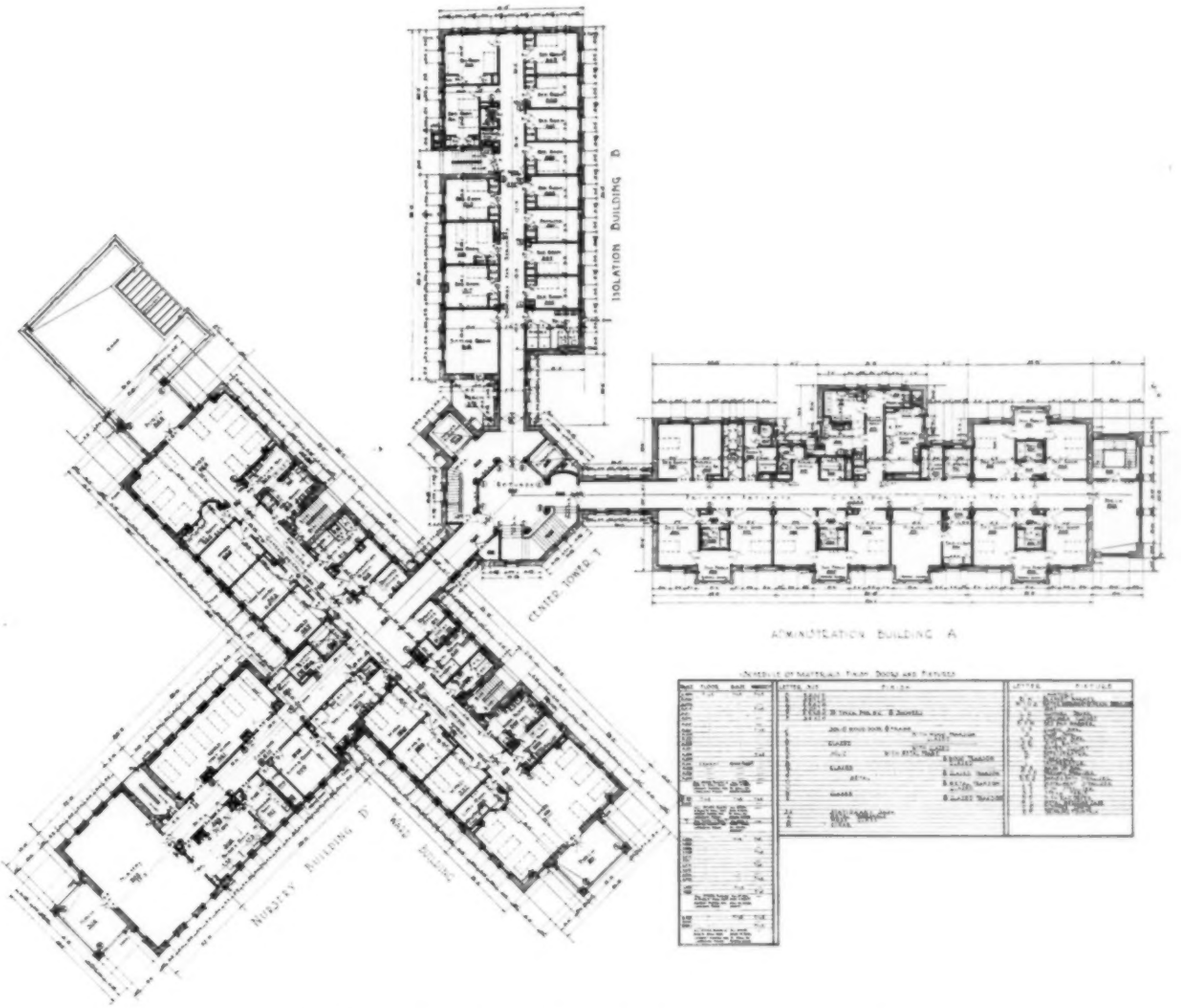

Fig. 7. Elizabeth Steel Magee Hospital—Third floor plan of central building.

ADMINISTRATION BUILDING.

Basement—On this floor are the following: the wholesale storage rooms for the kitchen and housekeeping supplies; the sewing and linen storage rooms; a clothes chute room; kitchen for the private rooms on the second and third floors and roof garden; a hydrotherapeutic department, furniture storage; and the apartments for the interns and students of six bed rooms, a bath room,

and a sitting room. These apartments are located in the east end of the building and are on the grade level, being about 13 feet above Halket street adjoining.

First Floor—A large lobby; a large reception room for the ward patients, adjoining which is the office of the social service worker; information and telephone operators' room; the bookkeeper's office; the offices of the manager and the directress of nurses, separated by a common reception room; room; bath and toilet rooms; a nurse's office, with toilet and lavatory adjoining; a linen closet; a stretcher closet, and the elevator entrance, all opening into the main corridor. In the short service wing projecting into the court are located the following: a serving kitchen, with food lift running from the kitchen in the basement; a work room; a service room; a housekeeper's closet; a blanket warmer; and a built-in medicine closet, provided with a small sink and running water. In

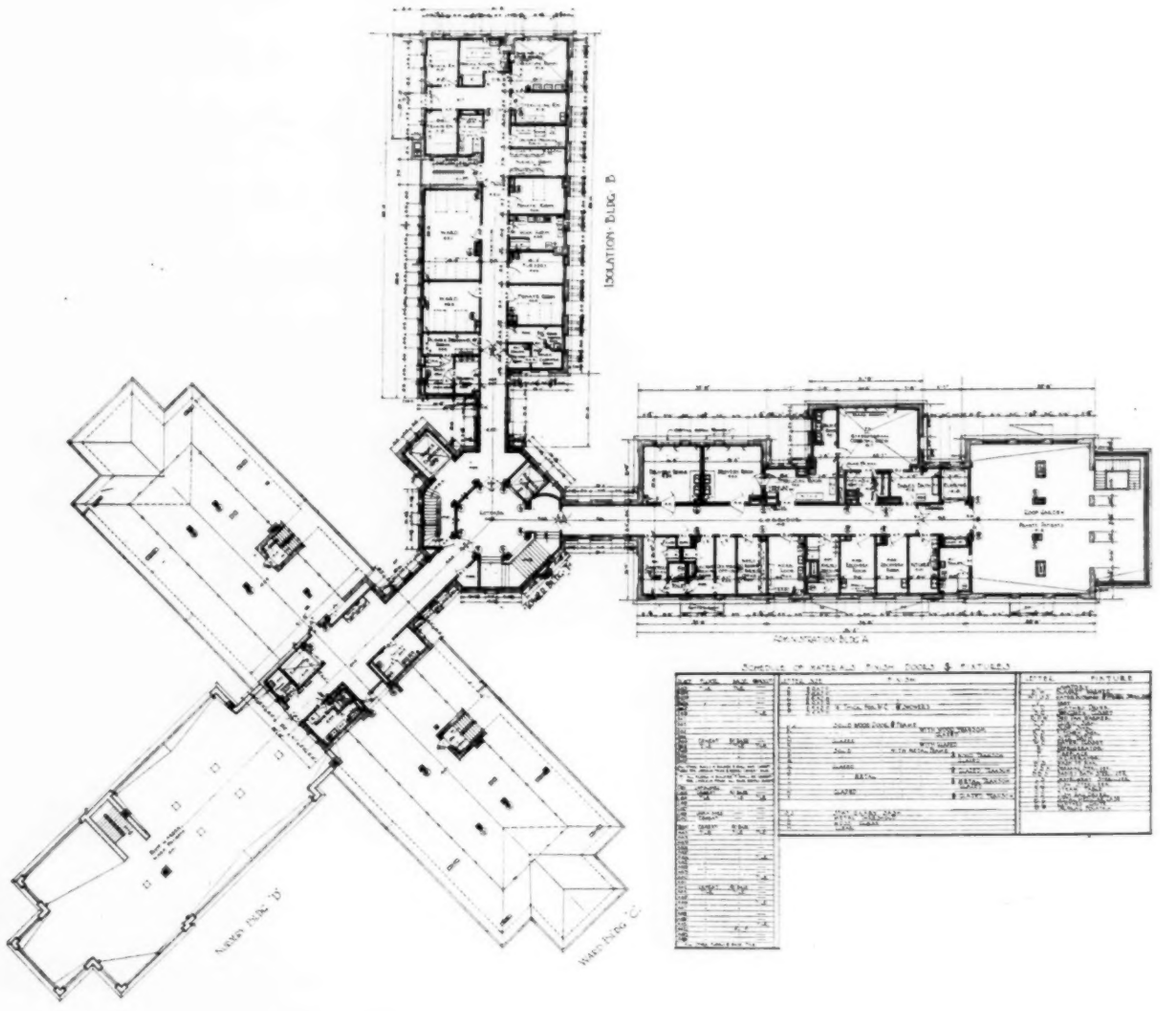

Fig. 8. Elizabeth Steel Magee Hospital—Fourth floor plan of central building.

a toilet, a lavatory, and cloak room for the female office employees; the office of the resident; a toilet and a lavatory for men; elevator entrance; housekeeper's closet; telephone booth; the board room; a suite of offices for private patients, consisting of a reception room, a consultation room, a dressing room and toilet, and an examination room; a study for the medical director.

Second Floor—On this floor are twelve very attractive private rooms; a large nursery, with a babies' bath room adjoining; a nurses' sitting

the service room are found the instrument, water, and utensil sterilizers; a sink; shelves and closets for dressings, utensils, instruments, etc. In the work rooms are the clinic sink, bed-pan sterilizer, bed-pan warmer; deep utility sink, with drain board; drying closet; specimen closet, incinerator, and clothes chute opening. At the east end of the wing is a sun parlor, from which entrance is gained to the glazed-in fire escape stairway.

Third Floor—This floor is similar to the second floor, except that there are but nine rooms, there

being four suites of two rooms each, separated by a bath room and sun parlor, the latter being adapted for use as a private nursery if desired. These rooms are larger, more expensively finished and furnished, and intended for patients desiring something better than is usually found in a hospital.

Fourth Floor—The third of this floor nearest Halket street is given up to a roof garden, with serving kitchen and toilet room adjoining. The remainder of the floor is devoted to the delivery and operating rooms for private patients, consisting of a gynecologic operating room, with a scrub-up room adjoining; two delivery rooms, each provided with two scrub-up sinks; a babies' bath room; two recovery rooms, one being equipped for cystoscopic work; dressing rooms for the medical director and his assistants; physicians' office; nurses' office and supply room; a work room, where patients are prepared for labor; a nurses' dressing room; a stretcher closet.

SERVICE BUILDING, WITH ISOLATION WARD.

Basement—The main kitchen; storage for eggs, butter, milk, vegetables, and meat; the bakery; dining rooms for the male and female help; the housekeeper's office.

First Floor—Dining rooms for the physicians, nurses, and ante-partum ward patients; serving kitchens; a cloak room for the nurses.

Second Floor—Apartments for the resident; medical library; museum; the laboratories of pathology, bacteriology, and physiological chemistry.

Third Floor—Servants' quarters.

Fourth Floor—The isolation department for the care of infected cases, with the necessary operating and sterilizing rooms and all other necessary equipment.

The kitchen and the "stink chamber" in the laboratories are ventilated by a system of fans carrying the odors through a flue to the top of the chimney well above the building.

WARD BUILDING.

Basement—In the wings running south and east are located the quarters for 37 ante-partum ward patients, with all the necessary baths, toilets, lavatories, etc. They are largely above ground, are absolutely dampproof, and are surrounded by wide areaways. On the grade level at the end of the south wing is a large, uncovered concrete deck, to be surrounded by a hedge and protected by an awning-covered pergola. In the west wing to the south of the corridor are the rooms for fumigating, repairing, and storing mattresses and patients' clothing, and the carpenter shop. North of the corridor the basement is entirely above ground and opens into the service court. Here are found, in order from the tower west: the office for the assistant housekeeper; the locker and toilet rooms for the male and female help; an undertaker's room with refrigeration for six bodies; a large autopsy room; a small chapel; a students' manikin room, with toilets and lavatory adjoining.

First Floor—In the east wing are the drug rooms; a routine urine examination room, with a fan-ventilated hood; a room for photography; an emergency bed room for patients admitted at night, but not in labor; x-ray rooms; reception and examination rooms for gynecologic patients; a general waiting room from which gynecologic and obstetric patients are distributed to their respective departments. In the south wing are a reception room for obstetric patients, from which they pass, in order, to (1) the history-taking room, (2) the undressing room, (3) examination room, with bath and toilet adjoining, and (4) the dressing room, with linen room adjoining. On the west side of the corridor are the record room; a rest room for the assistant obstetrician on night duty in the delivery department; a stock room for gauze, cotton, and other supplies for the delivery and operating departments; a stretcher room; a housekeeper's closet. In the west wing are a labor room, with three beds; two two-bed delivery rooms, with scrub-up sinks; a sterilizing room, with instrument room adjoining; an operating amphitheater, with accommodations for 120 auditors; a recovery room; an interns and students' rest and note-taking room; office of the assistant on duty in the clinic; physicians' bath and dressing room; a cystoscopy room; a nurses' office and supply room; a preparation room; a nurses' bath and dressing room; a babies' bath room, equipped for the preliminary routine care of the new-born infant and to meet any accident or emergency which may arise.

Second Floor—The east and west wings are devoted to post-partum patients, and largely duplicate each other. At the end of each is a 10-bed ward, adjoining which are three 2-bed wards on the south side of the corridor, providing accommodations for 32 patients, with all the necessary linen rooms, service and work rooms, toilets, baths, lavatories, serving kitchen, with dining room adjoining for ambulatory patients; an examination or treatment room; offices for the physicians and head nurse. The south wing is devoted to the babies, there being a large nursery; a bath room, with sterilizing room adjoining; an incubator room; a milk preparation room; a room for sick babies; a stretcher closet; a housekeeper's closet.

Third Floor—This floor is similar to the second

floor, except that the west wing is given over to gynecologic patients, and in the south wing a 6-bed ward for post-partum patients takes the place of the incubator room, milk preparation room, and room for sick babies.

Fourth Floor—The south wing has a roof garden for ward patients, a serving kitchen, toilet and lavatories, linen closet, a housekeeper's closet.

ELEVATOR AND STAIRCASE TOWER.

The tower is octagonal in shape, and is five stories high above the basement. It contains a passenger elevator and stairway, opening into a rotunda; a freight elevator and service stairway, opening into a side corridor encircling the rotunda on the west side. By this arrangement free communication is established on each floor between the ward and isolation buildings without going through the rotunda. Also on the first floor a side passageway connects the large reception room in the administration building with the service corridor, so that ward patients on admission reach the ward building, not through the rotunda, but by way of the service corridor also.

Special attention is called to the very unique clothes chute arrangement in the ward building. In each wing is a fire escape recess, with stairway, covered above, but largely open on the outside. Across one corner of this recess, usually next to the work room, is located the clothes chute. It is triangular in shape, is lined with cement, which is painted, and is closed in with vertical iron bars, so that, while protected from the weather, it is an open-air chute practically outside of the building. From the fire escape stairway the chute may be thoroughly washed down with a hose, the water finding its way into the sewer at the bottom.

The hospital is well supplied with elevators. The elevator in the administration building is for the exclusive use of private patients in going to and from the operating and delivery rooms and roof garden on the fourth floor, and to and from the basement, where access is gained to the private gardens. All visitors, the physicians and nurses, and private patients on admission, except when in labor, will use the passenger elevator or stairway in the tower. The servants and ante-partum ward patients will use the service elevator or stairway opening into the service corridor in the tower. The elevator in the ward building will be used exclusively in transporting ward patients to and from the delivery and operating department on the first floor and to and from the roof garden on the fourth floor.

It will be noted that private patients and their visiting friends never come in contact with the ward patients and the service side of the hospital; also that the ante-partum ward patients never get into the corridor leading to the physicians' and nurses' dining rooms, as they enter their own dining room by way of a stairway leading from the basement.

THE SCOPE OF THE HOSPITAL.

The hospital will care for obstetric and gynecologic cases only, and will be a teaching and research institution. The medical director, who is also professor of obstetrics in the University of Pittsburgh, resides with his family on the hospital grounds, is paid a salary sufficiently large to make him independent of private practice and to enable him to devote all his time to the care of hospital patients, to research, and to teaching. All fees received from private patients go into the hospital treasury.

The present temporary hospital cares for about 350 cases of labor annually. Associated with it, and having the same directing head, is the Pittsburgh Maternity Dispensary, founded two years ago and caring for 600 confinements a year. The combined material of these two institutions is very largely available for teaching purposes, and is at the disposal of the department of obstetrics of the University of Pittsburgh. With the completion of the new hospital and the extension of the work of the dispensary, it is confidently expected that the combined clinics of the two institutions will furnish not less than 4,000 confinements a year within the next half dozen years. With an obstetric service of this size, the develment of a large and varied gynecologic service is inevitable.

With a staff of well-paid and well-trained assistants giving their entire time to the care of hospital and dispensary patients and to teaching, with well-equipped laboratories of pathology, bacteriology, and physiological chemistry in charge of trained investigators, and with so large amount of clinical material, unexcelled opportunities will be provided students and practitioners of medicine for gaining practical experience and doing advanced work in obstetrics and gynecology.

Some idea of what may be expected in the new hospital, in the way of undergraduate instruction in obstetrics, may be gained by reference to what is being done at the present time in the temporary hospital: three members of the senior class are on duty at a time, sleeping and taking their meals at the hospital. They act as clinical clerks and assistants, and deliver all normal cases under personal supervision and instruction, the work being apportioned according to seniority. Each student remains on duty until he has witnessed nine deliveries, and following these until he has personally conducted three additional deliveries. Under constant supervision also. the students on duty

make all physical and obstetric examinations on admission cases; write all histories, labor, and puerperal records; make the final examinations on discharge cases, including the vaginals; make daily visits to all mothers and babies; make and chart all laboratory analyses, and give anesthetics. They also attend daily quizzes on the examination of pregnant women, the management of labor and the puerperium, and on obstetric technic. At the close of his service at the hospital the student is sent into the dispensary, where he is required to deliver, under supervision, three additional cases in the homes of the patients, to make ante-partum and post-partum visits, laboratory analyses, etc., following the technic which he has learned in the hospital. All dispensary patients needing hospital care are transferred to the Magee Hospital, where all major operative work is done by the professor of obstetrics before sections of students summoned for the occasion.

It is expected that within a few years following the completion of the new hospital each student of the medical school will be given an opportunity, before graduation, to conduct under supervision not less than 25 cases of labor, and that graduate students, as interns and salaried assistants, will be given exceptional opportunities to specialize in both obstetrics and gynecology. It is hoped not only that the standard of obstetric teaching and practice will be raised thereby, but also that much will be accomplished toward the solution of the midwife problem in this community.

The hospital also offers a three-months' course in obstetric nursing. The training school is in charge of an experienced directress of nurses, who is assisted by a staff of exceptionally well-trained head nurses. Pupil nurses are admitted from other hospitals through training school affiliations, as are also graduate nurses with satisfactory credentials from training schools of approved standing. The course is eminently practical, comprising lectures, recitations, and demonstrations, supplementing active service in the wards, private rooms, nursery, and delivery department.

TREATMENT OF DELIRIA IN GENERAL AND IN SPECIAL HOSPITALS.[1]

Study of Cases—Absence of Restraint and Depressing Drugs, and Employment of Baths and Eliminatives, Show Best Results.

By DONALD GREGG, M. D.,
ASSISTANT PHYSICIAN TO OUT-PATIENTS, BOSTON PSYCHOPATHIC HOSPITAL.

THE treatment of the deliria is interesting and important both from a medical and social view point. The object of this paper is not to extol any one method of treatment or any one drug; it is not to draw any comparison between the methods of treatment of different hospitals in different parts of the country. The object of the paper is to emphasize the general ideals that should rationally be sought in the treatment of cases of delirium, to show how these general ideals are approached in the treatment of cases in various hospitals, and to plead strongly for more rational treatment and for more adequate hospital provision for the care of these cases in general hospitals.

METHOD.

In the treatment of the deliria, general hospitals and hospitals for the insane have practically but one type of delirium in common—namely, delirium tremens. Consequently, in an attempt to compare the treatment of the deliria in general hospitals and in hospitals for the insane, cases of delirium tremens were chosen for study. At the psychopathic department of the Boston State Hospital no cases of delirium tremens are supposed to be admitted. Cases of alcoholic hallucinosis are admittable, however, and, as a result of the difficulty of making a differential diagnosis between these two conditions, a small number of cases are admitted as alcoholic hallucinosis and later diagnosed as merely delirium tremens. From the time that the hospital was opened in July up to the time that this study was undertaken, there were found in the records 10 cases diagnosed as delirium tremens. These 10 cases were taken, and represent the first 10 cases in the hospital, chosen chronologically without regard to other factors. The treatment that has been given these cases was reviewed, together with other factors relating to them, such as age, the period of time in the hospital, the complicating physical conditions, the condition on discharge, etc. Next, 10 cases were chosen from the records of a large general hospital. These cases were the last 10 catalogued as delirium tremens. No other factor, such as age, sex, or result, was considered in selecting them. Then 10 cases were studied at a large municipal hospital. Here an assistant resident picked out cases at random from the different medical services. But lest any conclusions

[1] Psychopathic Hospital Contributions. The previous contribution was by Dr. George T. Tuttle, entitled, "The Male Mental Nurse," published by the Boston Medical and Surgical Journal.

drawn from these three hospitals may seem inadequate and local, similar series of 10 cases each were studied at large general hospitals in New York City, in Philadelphia, and in Baltimore. In no instance was there any selection of cases on any basis other than chronological or chance. Thus 10 cases from an insane hospital were chosen and compared with 50 cases—10 from each of five general hospitals in various parts of the eastern states. The treatment given the cases was considered under five heads—namely, restraint, depressants, stimulants, eliminatives, and counter eliminatives. As far as possible the treatment of the delirium alone was considered; for example, if morphia were given, that was grouped as a depressant; if a c. c. pill, or some nux vomica and gentian were given during the convalescence of the patient, these drugs were disregarded and not classed as eliminatives or stimulants, whereas calomel and salts, or strychnia given hypodermically during active delirium, were justly so considered. In studying the treatment at different hospitals, various difficulties were encountered, due to the different systems of record keeping in vogue at different institutions. At one hospital a drug would be recorded as ordered p. r. n., and no record kept of the amount of the drug given. At another institution there was only a partial record of the treatment given. Elsewhere the ordering of the drug was recorded, but its discontinuance not noted, etc. At one hospital where camisoles and other restraint apparatus are in general use, no record of restraint orders is kept in the individual histories. Consequently absolutely accurate records of the amount of drug treatment or restraint given were not obtained from the study of the hospital records. In the main, however, an opinion could be reached as to the general line of treatment, and certain definite facts were obtained which seem worthy of record. Particular attention, however, should be called to the relatively small number of cases studied, and consequently to the inadequate basis afforded on which any final conclusions should be drawn regarding the relative mortality of cases of delirium tremens treated in general hospitals and in hospitals for the insane. From the study of these cases, information regarding the following facts was obtained: the age, sex, time in the hospital, number of complicating conditions, the number of times restraint was used, and the number of doses of drugs given, grouped as depressants, stimulants, eliminatives, and counter eliminatives. The results of 2 cases, one from the Psychopathic Hospital and one from a general hospital, are quoted as showing the details from which the following tables are compiled:

K., 38 years old; male; remained in the Psychopathic Hospital 34 days. His alcoholic condition was accompanied by one other complication. He was treated without restraint; received one dose of depressant drug; no stimulation; 9 eliminative treatments; no counter eliminative treatment; and was discharged recovered.

M., 40 years old; female; remained in a general hospital 3 days. Her alcoholic condition was accompanied by no other complication. She was treated with 3 orders for restraint; 55 doses of depressant drug; 20 doses of stimulant; no eliminative; no counter eliminative; and was discharged dead.

In the following table the results of 50 cases, 10 each at five general hospitals, are averaged together. In contrast with this average is shown the average result from the 10 cases studied at the Psychopathic Hospital:

	Sex	Age	Time in hospital	Complications	Treatment					Resulting mortality
					Restraint	Depressants	Stimulants	Elim.	Counter elim.	
Average of general hospitals.	8 m., 2 f.	39	10 days	.8	11.	19.	21.	3.2	.9	26%
Psychopathic hospital.....	10 m.	46	22 days	1.	0	.6	0	3.	0	0%

The most striking fact in this table is the difference in mortality—26 percent at the general hospitals and 0 percent at the Psychopathic Hospital. Next, it should be noted that this favorable result is obtained in spite of the fact that at the Psychopathic Hospital the cases were older and more commonly complicated with other morbid conditions, and, further, that the mortality of the cases varies directly with the amount of depressant drugs and restraint used.

Having thus determined, to some extent, the methods in vogue in the treatment of delirium tremens at general hospitals and at the Psychopathic Hospital, and having noted the consequences attendant on the use of depressants, stimulants, and restraint in general hospitals as compared with those at the Psychopathic Hospital, where baths, packs, and elimination, without restraint, are used, an attempt was made to see how generally the treatment used in the alcoholic cases was used in other cases of delirium at the Psychopathic Hospital. An examination of the

requisition blanks of the Psychopathic Hospital showed 70 different drugs ordered for the hospital during the past six months. The formulary of the Boston City Hospital showed 194 drugs, and that of the Massachusetts General Hospital 160 drugs, but the drugs ordered for a hospital dispensary, or the drugs named in a formulary, are a poor index of the medication actually given. Consequently an examination of the order books of the six wards of the Psychopathic Hospital was made. During the month of January, 1914, there were 877 orders written for treatment. An analysis of these orders is shown in the following table:

Average number of cases			95+
Total orders			877
Baths	343	39 percent	86 percent
Packs	80	9 percent	
Eliminatives	330	38 percent	
Stimulants	51	6 percent	14 percent
Depressants	33	3.5 percent	
Miscellaneous	40	4.5 percent	

Of the 877 orders, 86 percent were for baths, packs, and elimination, while only 14 percent were for stimulants, depressants, and other medications. Perhaps the most striking figure is that 33, or only 3½ percent, of the orders were for depressant drugs. These orders include those for morphia, bromides, veronal, etc., and total only about one order a day for the 95 cases in the hospital. The next more striking figure is that of 343 baths—most of them continuous baths—and means that during the thirty-one days of the month the twelve tubs used for prolonged baths were all in great demand.

DISCUSSION.

Careful study of the symptomatic psychoses, under which are included the psychoses secondary to certain infectious diseases, conditions of exhaustion, certain organic non-nervous diseases, and certain constitutional disorders, has shown no marked differential points by which, for example, a typhoid delirium can be distinguished from a delirium in pneumonia, or a diabetic stupor can be distinguished by a mental examination from a uremic coma. Moreover, careful autopsy examinations of the nervous systems of different types of these symptomatic psychoses have failed to show any normal recognizable macroscopic or microscopic changes. Consequently the theory has been advanced that these conditions are presumably not due to the primary infectious agents, but to secondary agents—metatoxins, that are dedeveloped in common by any one of these primary agents. Alcoholic delirium is admittedly the result of intoxication. Whether it is the direct result of alcohol serving as a toxin, or to some metatoxin depending on the alcohol, is yet undetermined. But whatever the theory of the cause of these psychoses, the treatment of these conditions is clear. In addition to the treatment of the underlying primary agent, which perhaps has generated the secondary metatoxins, it is necessary to further the elimination of these secondary substances, rather than by restraint and depressant drugs, to leave the patient exposed to their deleterious action. This elimination can be furthered by physical activity on the part of the patient; by warm packs, hot air baths, electric light baths, prolonged warm baths, increased ingestion of fluid by mouth, by voluntary or tubal feedings, free catharsis, rectal irrigations, salt solution enemata, hypodermoclysis, and intravenous salt solution injections. This elimination can be hindered by straight jackets or other restraint, by morphia and other depressant drugs. In the ordinary general hospital, however, no general provision is made for the treatment of the deliria. Usually there is an isolation or noisy ward, where these cases are moved when they become obstreperous. Here they are grouped for the benefit of the other patients in the hospital rather than for their own good. Moreover, often the *sine qua non* is quiet—physical and vocal. This is obtained in the speediest and most effective way—namely, by restraint and by depressant drugs, regardless of the fact that this method of treatment jeopardizes a patient's chance for recovery. Present facilities in most general hospitals necessitate this method of treatment, and the ignorance of many general practitioners of the results of this method of treatment, as compared with treatment by hydrotherapy without restraint, permits a continuance of present conditions.

The problems in medication at mental hospitals lie in refinement of the use of drugs for purposes of elimination, in decreasing autointoxication, and in rectifying pathologic action of the internal secretions. In eliminating substances from the body, there is ample chance for skillful medication. There are cases needing mechanical relief by enemata, cases needing to have the fluids drained off by purges, and cases that are already desiccated and need more fluid, although still requiring relief from intestinal stasis. There are acute cases that may even need to be bled to reduce their fluids, or to have lumbar punctures done to lessen an excessive amount of cerebrospinal fluid. There are cases where autointoxication arises from infected teeth, or tonsils, or from misplaced and adherent intestines. There are cases where presumably the thyroid thymus or pituitary glands, or the reproductive organs, are not functioning properly. In all these directions

lie problems in medication for cases in mental hospitals.

General hospitals have many lessons to learn from mental hospitals, especially in the management of the deliria. Not the least of these lessons is that depressants, stimulants, and restraint lessen, whereas baths, packs, and elimination greatly increase a patient's chance for recovery. Workers in mental hospitals cannot but profit by a thorough knowledge of the best methods of medication in use at general hospitals, and workers in general hospitals can lose nothing, but gain much, by familiarity with the best methods in use at mental hospitals, for every patient needing treatment has the right to have his mental activities properly cared for at a general hospital and his physical activities equally well attended to at a mental hospital.

CONCLUSIONS.

First. At the Boston Psychopathic Hospital about 86 percent of the treatment of all cases consists of baths, packs, and eliminative treatment, and only 14 percent of stimulants, depressants, and miscellaneous drugs.

Second. The results of the eliminative treatment of the deliria with relative freedom and hydrotherapy, and a minimum amount of medication, far excels in effectiveness the usual treatment by restraint and depressant drugs in cases of the symptomatic psychoses, including alcoholism.

Third. Every general hospital should be provided with the facilities for treating properly cases of deliria. Such facilities should include isolation wards where quiet is not essential, and continuous bath apparatus for hydrotherapy.

THE DIETARY DEPARTMENT OF THE JOHNS HOPKINS HOSPITAL.[1]

Preparation and Service of Food Under Direction of the Dietitian—Stores in Charge of the Matron—All Foods Bought by One Person—Duplicate Requisitions for Everything—Methods of Transportation.

By MISS A. P. ATWOOD, Dietitian.

PAPER VI.

THE dietary department provides all meals served to both private and public ward patients, to the staff dining room, and to the employees of the hospital. The nurses' home is the one department for which comparatively little cooked food is provided, having its own kitchen and dining rooms, its own dietitian and corps of employees. The department is under the direction of a chief dietitian, with two assistants, one of whom devotes her entire time to the practical work in dietetics done by the nurses. As yet no arrangement has been made for receiving domestic science graduates as pupil dietitians.

All foods are purchased by the hospital buyer, on orders approved and signed by the superintendent of the hospital. Perishable goods, such as meats, fruits, and vegetables, are purchased semi-weekly; staple supplies at such times as seem desirable, or when needed. All purchases are delivered at a receiving station and are checked up by the buyer. In addition to the store rooms for nonperishable goods, there is a series of cold storage rooms, which provide for the meat, fish, vegetables, fruits, etc. The quality of all supplies is passed on by the dietitian, and if she finds goods, on delivery, to have been misrepresented, or not up to the required standard, they are returned.

The diet school, where the nurses receive their training, is located in the kitchen building, in rooms specially fitted for its use, but separated from the general kitchen by a hallway. Here the special diets and special orders of all kinds are prepared, including such foods as broths, beef juice, scraped beef, salads, ice cream, custards, jellies, etc., and in addition the more delicate accessories of all trays for the private ward patients. An orderly is provided for the routine work of cleaning, window washing, the freezing of ice creams, etc. He also serves as one of the truckmen for delivering food to the private wards. The diet school maid does much of the lighter cleaning, as of shelves and cupboards, and has the general care of kitchen furnishings. She washes the larger cooking utensils, and all dishes, trays, and boxes used for conveying the food to the wards, which are returned unwashed. Each nurse is required to care for all smaller utensils used by her in the preparation of diets.

The course in dietetics is given to the nurses during their six months' probationary period. This is the moment when such training is of most value to them, for, after they begin ward work, they are better able to understand the uses of food for their patients, and, besides this, they are less interrupted in their ward work later; before they graduate they spend one week more, during

[1] This is the sixth of a series of papers on the domestic management of Johns Hopkins Hospital. Last month, "Organization of the Housekeeping Department;" next month, "Drugs, Medicines, and Surgical Supplies."

their intermediate year, in the diet kitchen to review their past work. While assigned to duty in the diet school the nurses are sent at meal hours to the ward diet kitchens to assist the nurses there in the serving of the individual trays to the patients, and in getting ready such foods as are prepared on the wards.

In the general kitchen the chef is responsible for the detail work and the general conduct of his assistants. In this kitchen all meals are prepared for the staff dining room and for the employees, and also all soups, meats, and vegetables for the private ward patients. Formerly all the food for the private ward patients was prepared by the nurses in the diet school, but this arrangement became impractical as the number of patients increased, giving, as it did, too much routine work to the nurses and leaving them too little time for that part of dietetics more closely related to their work.

All menus are planned by the dietitian, and are designed to suit the needs of the four general classes—private ward patients, the house staff, public ward patients, and the employees.

Menus for the private ward patients are sent one day in advance to the head nurses of the wards, who prepare the order for each patient according to the directions of the doctors, and are returned with the exact number of servings required for each article specified on the menu. The patient may, in special instances, express a desire for some special food, but the order for it must be given by the doctor.

Head nurses on the public wards send requisitions each day for the number of regular and special diets required. There are standard menus for ward diets—regular ward diet, soft, liquid, diabetic, cardio-renal, etc.—so that their preparation is easy when they are called for.

Daily requisitions for raw materials, such as eggs, milk, butter, fruits, etc., articles not requiring preparation in the kitchen, are sent directly to the store room, where the orders are filled. All requisitions for the various wards are signed by the superintendent of the hospital, or by one of his assistants.

Food supplies for the diet school, the general kitchen, and the various dining rooms are sent out each morning from the store room on requisition from the dietitian. Supplies are received in each place by a responsible person, and any variation from the amount ordered is reported to the dietitian, who adjusts the matter with the employee in charge of the store room. Duplicating order books are kept for this purpose, so that copies of each day's requisitions are on file both in the store room and in the office of the dietitian.

Goods sent out from the store room to the wards are placed in locked supply boxes, to which the head nurse in each ward has a duplicate key, thus insuring against loss during transportation. These boxes are transported on trucks to the various ward elevators.

All cooked foods sent out from the diet school and the general kitchen are in large containers.

JOHNS HOPKINS HOSPITAL.
DAILY ORDER.

Ward.....

.....19....

Milk (quarts).....
Eggs (dozen).....
Butter (pounds).....
Sugar (pounds).....
Lemons .....
Beef steaks .....
Chops .....
Chickens .....
Oysters .....
Bread (loaves).....
Crackers .....
Fruit .....
.....
.....
.....
.....

Number of patients on
Ward diet .....
Special diet .....
Liquid diet .....

Total .....

....., Head Nurse.

SEMI-WEEKLY ORDER.
Special orders for Monday and Thursday, A. M.

.....

Tea ..... pounds
Coffee ..... pounds
Cocoa ..... pounds
Chocolate ..... pounds
.....
.....
.....

Orders to be ready for collection at 5 P. M. daily.

Fig. 1. Daily and semi-weekly order blank—Size, 4x10¼ inches.

Most of these are regulation steam table insets, which are fitted with the tightly clamped covers used on fireless cooker kettles. Thus the loss of much heat in transit is prevented, and the individual containers fit the steam tables in the ward kitchens.

Each private ward has its own food truck. This is divided into two compartments—one for hot

JOHNS HOPKINS HOSPITAL.
PURVEYOR'S DEPARTMENT.

Date..... Private Ward.....

Number of patients on ward.

Milk (quarts)	
Cream (quarts)	
Kephyr (quarts)	
Buttermilk (quarts)	
Butter (pounds)	
Cheese (pounds)	
Eggs (dozen)	
Lemons	
Oranges	
Grapefruit	
Extra fruit	
Bacon	
Beef steaks	
Chops	
Chopped beef	
Oysters on half shell	
Oysters in bulk	
Crackers	
Dry Cereal	
Syrup	
Vinegar	
Olive Oil	
Salt	
Pepper	
Mustard	
Flour	
Vanilla	
Marmalade	
Jam	
Lettuce	
Honey	
Parsley	
Tea	
Coffee	
Cocoa	

JOHNS HOPKINS HOSPITAL.
Private Wards. Daily Orders.

Date..... Ward.....

Number of patients on

Full diet	
Soft diet	
Light diet	
Liquid diet	
Diabetic diet	
Salt free diet	
Obesity diet	
Anacidity diet	
Hyperacidity diet	
Total number of patients	

Special Orders.	Time.	
Broths—Beef		
Chicken		
Mutton		
Clam		
Beef juice		
Bread—White		
Graham		
Salt free		
Soup—Cream		
Clear		
Vegetables		
Meats		
Salads		
Junkets		
Custards		
Jellies		
Prunes		
Prunes and senna		
Stewed fruit		
Baked apples		
Extras		

Fig. 2. Purveyor's order blank—Size, 8½x11 inches.

MENU—TUESDAY, MARCH 31, 1914.

Breakfast.		Dinner.		Supper.	
Fruit—Oranges	24	Soup	24	Meats—Broiled chicken	12
Cereals—Rolled oats	12	Meats—Roast chicken	8	Broiled chops	11
Cream of wheat	12	Roast beef	15	Potatoes—Baked sweet	23
Broiled ham	23	Creamed chicken	1	Rolls—Plain	23
Potatoes—Browned	23	Vegetables—Potatoes	23	Salad—Tomato	23
Muffins—Cornmeal	23	Rice	23	Cake—Roxbury cakes	23
Total number patients on floor	27	Cauliflower	11	Fruit—Pineapple	23
		Tomatoes	12		
		Desserts—Ginger ice cream	20		
		Tapioca cream	6		
		Salad—Grapefruit and celery	23		

Fig. 3. Sample menu card.

foods, built on the principle of the fireless cooker, and one for cold. At serving time all hot special orders from the diet school are placed in one compartment with the containers of hot food from the general kitchen. The cold foods, such as raw oysters, salads, ice creams, etc., are placed in the other compartment. A dietitian is always present when the trucks are loaded to see that the proper articles and amounts are sent out. The truck is then taken to the diet kitchen of each ward and left until after the meal is served, when the food containers are returned in it unwashed, with any excess of food which has not been served to the patients.

The public ward meals are served in large containers, which are placed in covered boxes, one for each ward. These are carried on trucks to the various wards and sent on elevators to the diet kitchens. Owing to the large number of dining rooms, and the various classes of meals served in them, it is possible to use in some form practically all of the excess foods returned from the ward serving rooms.

The ward nurses assigned for work in the diet kitchens serve the individual trays. They prepare tea, coffee, cocoa, toast, and eggs used by the patients, and also the nourishments taken between meals. The trays, which have short folding legs, may be set across the patient's body while in bed, or, when the patient is sufficiently convalescent, a tray placed on the bedside table is used. Helpless patients are fed by the nurses. On the private wards the trays are carried to the patients' rooms by maids, two of whom are assigned to each ward kitchen, making it possible for the meals, especially the dinner, to be served in courses. Food returned on the trays is put in the garbage cans, which are emptied at regular intervals during the day.

The staff dining room will seat about one hundred and fifty people. This is separated from the general kitchen by a serving room, but is not so far distant as to prevent cooking such articles as chops, steaks, etc., as they are required. The dining room waitresses prepare tea, coffee, and toast in the serving room.

On the floor above the kitchen are located four dining rooms for the employees of the hospital. One is reserved for petty officers, assistants in various departments, telephone operators, etc. This will accommodate about fifty people. The meals and service here are practically the same as in the staff dining room.

One of the remaining dining rooms is used for women, one for men, and one for colored employees. About two hundred and fifty people are fed in the four dining rooms. All are served from pantries supplied with steam tables, the food being sent up in large utensils on the dumbwaiter from the general kitchen.

The preparation of the lunches for those on duty at night is attended to by the waitresses in the various dining rooms where their day meals are served.

The night superintendents of nurses have a lunch served to them in the nurses' home by the maid who is on duty there until 12:30 each night. This maid also prepares lunch baskets for all nurses on duty in the wards. These baskets are ready by midnight, and are distributed to the wards by an orderly. The orderlies' night lunches are given to them by their waitresses as they leave the dining room after the six o'clock supper. The lunch for the night engineers is prepared in the general kitchen, and is called for by them each night as they come on duty.

The doctors can secure a late cold supper in the staff dining room, which is opened at 11:30 p. m. Such articles of food are provided there as can be prepared by the waitresses before leaving for the night.

Waste from the general kitchen and diet school is divided into two kinds. Green stuff, such as refuse leaves of lettuce, cabbage, spinach, celery, parings of vegetables, etc., is separated, to be sent to the various laboratories where animals are kept. Anything not useful for this purpose is placed in garbage cans and sent to the crematory.

All of the bread and pastry work for the entire hospital, including the nurses' home, is done in the bakery in the basement of the kitchen building. Nothing of this sort is obtained from outside sources. This necessitates a force of three bakers, who prepare each day white and graham breads, rolls, cooked fruits for public ward patients and employees, and all desserts and ice creams, except those for the private wards, which are prepared in the diet school.

The butcher's shop also comes under the direction of the dietitian, and by this arrangement it is found that the meats are cut to greater advantage, and to better suit the purposes for which they are to be used. Two men are employed here, and one woman for cleaning, who divides her time between the bakery and the butcher's shop. Beef is purchased chiefly by the side, although some hindquarters and special cuts are used. Veal and lamb are purchased whole. Comparatively little pork is used, but considerable bacon and ham. Poultry is delivered daily. Much of the surplus fat trimmed from the meat is sent to the hospital laundry, to be used in making soap. The remainder, together with bones and refuse trimmings, is sold.

Supplies for the dietary department, such as

furniture, china, silver, linen, and cooking utensils, which are similar to those used in other parts of the hospital, are obtained by requisition from the general supply room, under the charge of the matron. Requisitions for new materials and broken articles for exchange are sent to the general supply room on Friday morning of each week. Supplies of clean linen, uniforms, aprons, etc., are obtained daily by waitresses and orderlies in exchange for corresponding soiled articles. Anything in excess of the actual number sent in for exchange is obtained only by a requisition signed by the dietitian.

Special articles of furniture for the dietary department, or cooking utensils not used elsewhere in the hospital, are filled by special orders and selected by the dietitian. All requisitions for this class of supplies, as well as all orders for repairs by carpenters, plumbers, painters, etc., are signed by the superintendent of the hospital.

GREENPOINT HOSPITAL—PART OF BROOKLYN HOSPITAL SYSTEM.

New Institution With 250 Beds Constructed With View to Cure of Patients, Efficiency in Administration, and Economy in First Cost—Some Special Features.

By FRANK J. HELMLE, Architect, Brooklyn.

THE Borough of Brooklyn, considered by itself, would be the third largest city in population in the United States, the second largest city in the value of its manufactured products, and the first city in the number of its individual homes. The hospital service of such a city, at least that portion in the hands of the Department of Public Charities, is an interesting and instructive problem. The work is carried on through a large central hospital and several smaller secondary ones. Each is designed to meet the needs of its particular neighborhood and still be part of the comprehensive system which provides hospital service to the entire borough. The Central Kings County Hospital is the development of the original public hospital of Brooklyn, and has now reached a capacity of 1,200 beds. Beyond the work from its own immediate neighborhood (and it draws from quite an extensive area), it cares for all lingering and convalescent cases, maternity cases, and psychopathic observation work sent to it by the smaller hospitals.

These secondary hospitals are in themselves very completely organized relief stations, and are equipped for emergency work of all kinds and for protracted cases where necessity demands. Greenpoint is the latest of these to be built, and represents the latest ideas both in plan arrangement and construction. It has space for 250 beds. Contagious cases, unless developed at the hospital, are cared for by the Department of Health. No fees are charged, and therefore no special accommodations are provided for "pay patients." Beyond these limitations, its work covers the field of the general hospital and it could therefore be considered a standard type. How nearly it approximates this may be more clearly understood from a study of the plan and the principles which governed its conception.

The function of the architect in hospital work is to get something built in which the patients can be cured. To do this, he must provide a plan in which the hospital staff can all work together to that end. Facilities for good organization and cooperation are therefore a first essential. The architect cannot guarantee these, but he can build for them. This means, in plan arrangement at least, having the working parts of the hospital convenient to each other, and this in turn means a careful study of the relative importance of these various parts, so that their position in the final scheme may be the correct one.

The site is a level tract 200 feet by 500 feet, with streets on all sides and the longest side facing south, from which direction come the prevailing winds. The more thickly populated section of the city, as well as the principal lines of communication, are to the west of the site.

The buildings were disposed in the manner indicated in order to secure the maximum southern exposure for the main building where the patients are, the minimum distance between power plant and points of power consumption, the greatest possible free garden space to the advantage of all the buildings, and the simplest possible arrangement of connecting driveways. With the exception of the power plant, the other buildings are purposely kept away from the main hospital building, so that the homes of the employees may have as much privacy as possible.

The central axis of the plan forms, in a general way, the dividing line between the sexes—everything to the east being female and to the west, male. The buildings themselves consist of a main building, fronting south, and several minor buildings forming a rectangle about it. The main building contains the essential elements of the hospital proper, while the minor buildings house

the accessory features. The inverted T-shaped plan of the main building permits an additional division in the building itself between things of a strictly hospital character along the front and those of a secondary nature in the wing to the rear. By this means we bring together at the crossing point of the "T," on a vertical line of circulation, those elements which are most closely interlocked in the cooperative work of the hospital, and we distribute them throughout the various floors, so that the ones with which the public have most to do come nearest the ground.

In the internal arrangements of the buildings, comfort of patients, convenience of hospital workers, and concentration of space except where useful, have been the guiding factors. The first makes for "cures," the second for "efficiency," and the third for "first cost economy."

The ward unit is the principal factor in the comfort of patients, and the plan of this deserves much study to determine its location with respect to the other parts of the building—first, with reference to freedom from noises; second, to avoid objectionable odors; and, third, to be convenient to "service" rooms.

Noises, aside from external ones, which can be controlled only by locating the building in a quiet place away from trolley lines and streets with busy traffic, are those from the necessary operation of the hospital itself. In so far as plan arrangement can affect the matter, the noisy elements, such as elevators, dumbwaiters, diet kitchens, baths, and toilets, have been placed as far from the wards as convenience would permit and separated from them by soundproof partitions. Floor finish is, of course, another important factor, and this in the wards is composed of a compressed cork tile, with terrazzo sanitary border and base, which makes a sanitary, noiseless, and easily cleaned, impervious surface, soft to walk on, but still durable.

Odors of an objectionable nature come from the hospital kitchen, diet kitchens, and operating rooms. The main kitchen is placed on the ground floor at the rear of the back wing, where no invalids are near it or over it. The diet kitchens, which must be convenient to wards, have special ventilation, described later under ventilation, taking care of any odors from that source. Operating rooms are all at the top of the building, and therefore entirely away from the wards, both in regard to noise and odors.

Convenience to "service" rooms is secured by arrangement of toilets and baths at one end of the ward and dining room and kitchen, etc., at the other. This brings both as close as possible to the ward itself, and still gives a sense of privacy and cleanliness that is quite worth while.

The convenience and comfort of hospital workers is a very important factor in administrative efficiency, and secondary only to that of the patients themselves. The features in plan arrangement (we are not here discussing furniture or equipment) which make for this are such matters as the location of all points where food is prepared and distributed, hospital supplies kept, soiled clothes collected, and where slop sinks, blanket warmers, cleaners' closet, etc., are situated. For example, all dining rooms, except patients' dining rooms, are next to the kitchen or just over it, and pantries, connected by dumbwaiters, serve separately the four types of workers—namely, doctors, nurses, male and female help, and common help. Patients' dining rooms are in every case just off their wards and next to the diet kitchens. These are in the same position on every floor, and have individual dumbwaiter service to each kitchen of each floor. One transfer of food in bulk in closed trucks is made between the kitchen and lowest level of these dumbwaiters.

The superintendent has a complete two-story

Fig. 1. Greenpoint Hospital—Birdseye view.

apartment, with pantry, dining room, and parlor on one floor, and two bed rooms, with bath, on the floor above. He is as centrally located as possible, but still has at least the same privacy he would enjoy in an apartment house.

The location of the kitchen on the ground floor (rather than under the roof, as is frequently suggested and sometimes done), with all its supply and store rooms immediately adjacent, makes for economy in handling and checking of food, disposal of waste, and the convenience of workers in that department, who come and go by their particular entrance and are never obliged to go through the hospital proper. The stewards' department, which is for hospital supplies only (no food is kept here), is entirely separate, also with separate entrance, and located on the ground floor of the east wing.

Every ward has slop sinks just off the bath rooms, and linen closet and blanket warmers in nurses' room near the ward entrance. There is a cleaners' closet, with slop sink, in the main hall on every floor and an extra one on the ground floor, where the cleaning work is greater.

Fig. 2. Greenpoint Hospital—Main building.

Concentration of space, both in floor area and in ceiling heights, is the greatest factor in reducing first cost of construction, because, other things being equal, the smaller the bulk of the building the less you pay for it. The sizes of the principal features, such as wards, operating suites, administration, etc., are generally pretty definite requirements. The gain or loss in space is apt to be found in the space required to connect these. Here is where the three-wing plan has every advantage in saving corridor space, because one central hallway serves all three wings.

Another factor in first cost is simplicity of structural forms. The rectangle of moderate span is by far the cheapest form, in proportion to its cubic contents, that can be built. It will readily be seen that all the secondary buildings are the simplest possible rectangles, and even the main building is only a combination of several rectangular shapes.

The other great factor in "first cost economy" is to avoid both structural and architectural "stunts." Many people seem to think a hospital is a thing very much apart from any other type of building; that it should be all glass and iron, so that every corner can be flooded with sunshine; that it should be covered with balconies, where patients can spend their lives out of doors; that it should be built like a swimming pool, so that walls and floors can be flushed out with a fire hose; and that at the same time it should be cheerful, homelike, and domestic, so that the mental influence will be beneficial to the patients.

As a matter of fact, the hospital problem does not vary so tremendously from other problems with which the architect must deal. The sanitary corner, the impervious wall and floors, and the elimination of horizontal surfaces are about the only really new elements in hospital buildings, and they are all details of interior finish; otherwise the function of the architect is to carry out the sound principles of plan arrangement outlined above and build a "rational" building, which will answer its purpose not only at the present time, but still be serviceable a few years hence, when the fads of today have become the fallacies of yesterday. For this reason no effort was made in the Greenpoint Hospital to provide excessive light

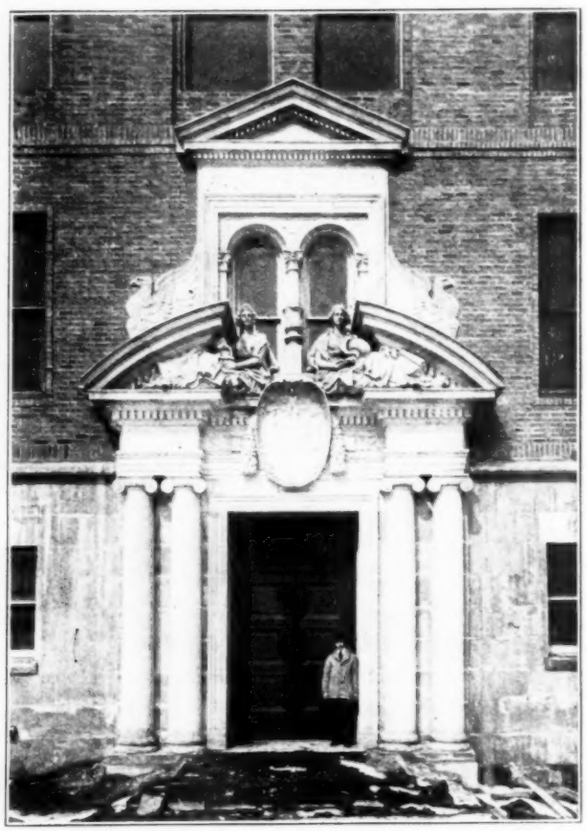

Fig. 3. Greenpoint Hospital—Detail of the main entrance.

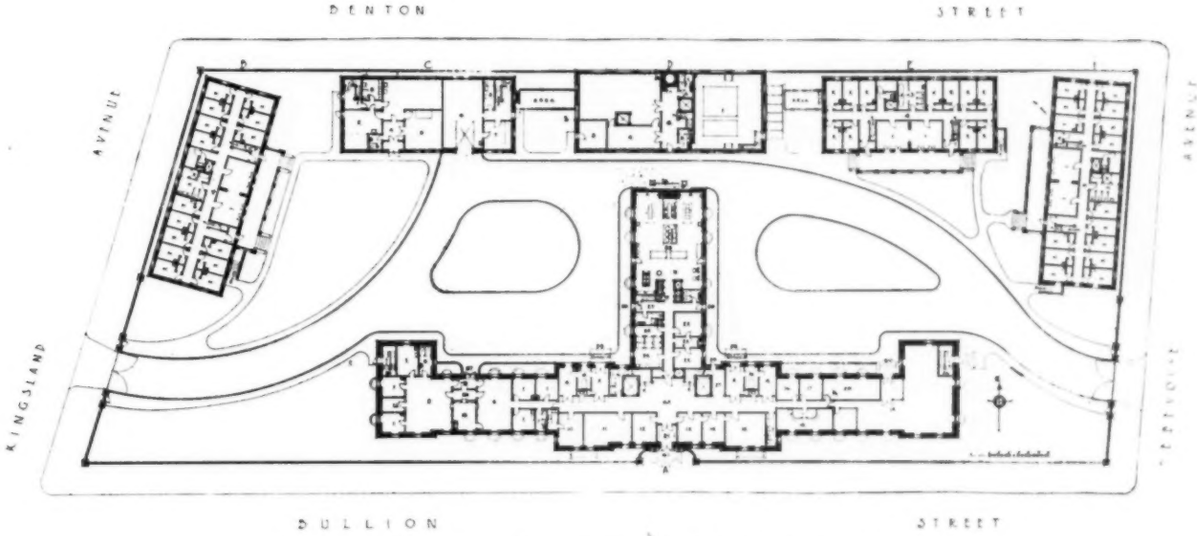

Fig. 4. Greenpoint Hospital—Basement plan of administration building.

BUILDING A—HOSPITAL.

1. Examination room.
2. Women's waiting room.
3. Men's waiting room.
4. Surgeons' room.
5. Receiving room.
6. Women's toilet.
7. Men's toilet.
8. Toilet.
9. Bath room.
10. X-ray room.
11. Board room.
12. Reception room.
13. General office.
14. Private office.
15. Office.
16. Linen room.
17. Sewing room.
18. Drug room.
19. Steward's department.
20. Passage.
21. Vestibule.
22. Help's dining room.
23. Pantry.
24. Meat refrigerating room.
25. Dairy refrigerating room.
26. Fire escape.
27. Entry.
28. Kitchen.
29. Laboratory.
30. Men's ward.
31. Women's ward.
32. Diet kitchen.
33. Convalescents' dining room.
34. Quiet room.
35. Nurses' toilet.
36. Bed room.
37. Superintendent's dining room.
38. Superintendent's sitting room.
39. Superintendent's pantry.
40. Doctors' dining room.
41. Men help dining room.
42. Women help dining room.
43. Head nurses' dining room.
44. Nurses' dining room.
45. Solarium.
46. Operating room.
47. Etherizing room.
48. Recovery room.
49. Surgeons' room.
50. Nurses' room.
51. Staff room.
52. Instrument room.
53. Sterilizing room.
54. Supply room.
55. Slop sink closet.
56. Air space under roof.
57. Dispensary entrance.
58. Ambulance entrance.
59. Help entrance.
60. Steward's entrance.
61. Main entrance.
62. Private hall.
63. Corridor.
64. Superintendent's bed room.
65. Sitting room.
66. Interns' porch.
67. Small ward.
68. Assembly room.
69. Class room.
70. Dressing room.

BUILDING B—MEN HELP.

1. Sitting room.
2. Bed room.
3. Toilet.
4. Corridor.

BUILDING C—MORGUE AND GARAGE.

1. Autopsy room.
2. Morgue.
3. Chapel.
4. Waiting room.
5. Toilet.
6. Garage.
7. Work room.

BUILDING D—POWER HOUSE AND LAUNDRY.

1. Boiler room.
2. General laundry.
3. Disinfecting room.
4. Receiving room.
5. Toilet.
6. Hall.

BUILDING E—WOMEN HELP.

1. Sitting room.
2. Bed room.
3. Toilet.
4. Corridor.

BUILDING F—NURSES' HOME.

1. Sitting room.
2. Bed room.
3. Toilet.
4. Kitchenette.
5. Corridor.

in wards where a subdued light is often more desirable than a glare; nor has any effort been made to have expensive and nondurable iron and glass construction in the solariums, where ample sunshine comes through the grouped windows which extend from floor to ceiling. And for the same reason the problem of heating and ventilating, so generally discussed and so frequently exaggerated in importance, has been reduced to its simplest form. The heating is done by steam radiators under windows, controlled by valves at each radiator. Ventilation is by the natural method of opening the windows, except in the main kitchen, diet kitchens, operating rooms, and all rooms where patients sleep. In these automatic ventilation, in addition to the natural method, is insured by admitting fresh air through holes in the outer wall back of radiators and withdrawing the foul air through registers at floor and ceiling level. Large heating coils in the towers on the roof, which are connected by vent ducts with all registers, keep the air moving. By this means good ventilation is assured in the places where it is most essential, and still there is no expensive machinery to get out of order, no complicated plenum system that is upset by the opening of a window, and no automatic control that prevents the individual occupants of the rooms from having any temperature they like.

For the same reason, in a hospital where patients remain but a short time and are supposed to be sick enough to stay in bed and glad of a quiet place out of the glare, no balconies, which would only serve to shut out the sunshine, have been built off the wards. One ample roof garden is provided, however, for the convalescents remaining for a longer period at the hospital.

Covered passageways have been omitted, it being an unnecessary expense both in first cost and maintenance in a hospital where the far greater portion of the work is in the main building. Of course an ample pipe and power tunnel at basement level connects all buildings.

In appearance a hospital should neither "scream" its purpose nor conceal it. There is no good reason why it should not have "style," and

be based on architectural precedent like any other building, but it should not be elaborated until it resembles a theater nor be simplified until it looks like a factory. Rational plan, simple construction, an honest use of materials, a careful study of proportion consistent with practical necessity, and the development of silhouette in keeping with the existing forms—these are the principles that make for good appearance.

In Greenpoint the materials on the exterior are limestone for the first story and a light buff tapestry brick above, green tile roofs, and copper towers. Proportion, form, and spacing of window openings give variety to the treatment of wall surface. The silhouette of the building is the natural one that results from the plan scheme. No sacrifices are made for architectural effects, but a few points of interest have been accented, such as the main entrance, the open loggia under the roof along the center of the building, and the towers, which simply screen the outlets of the ventilating ducts.

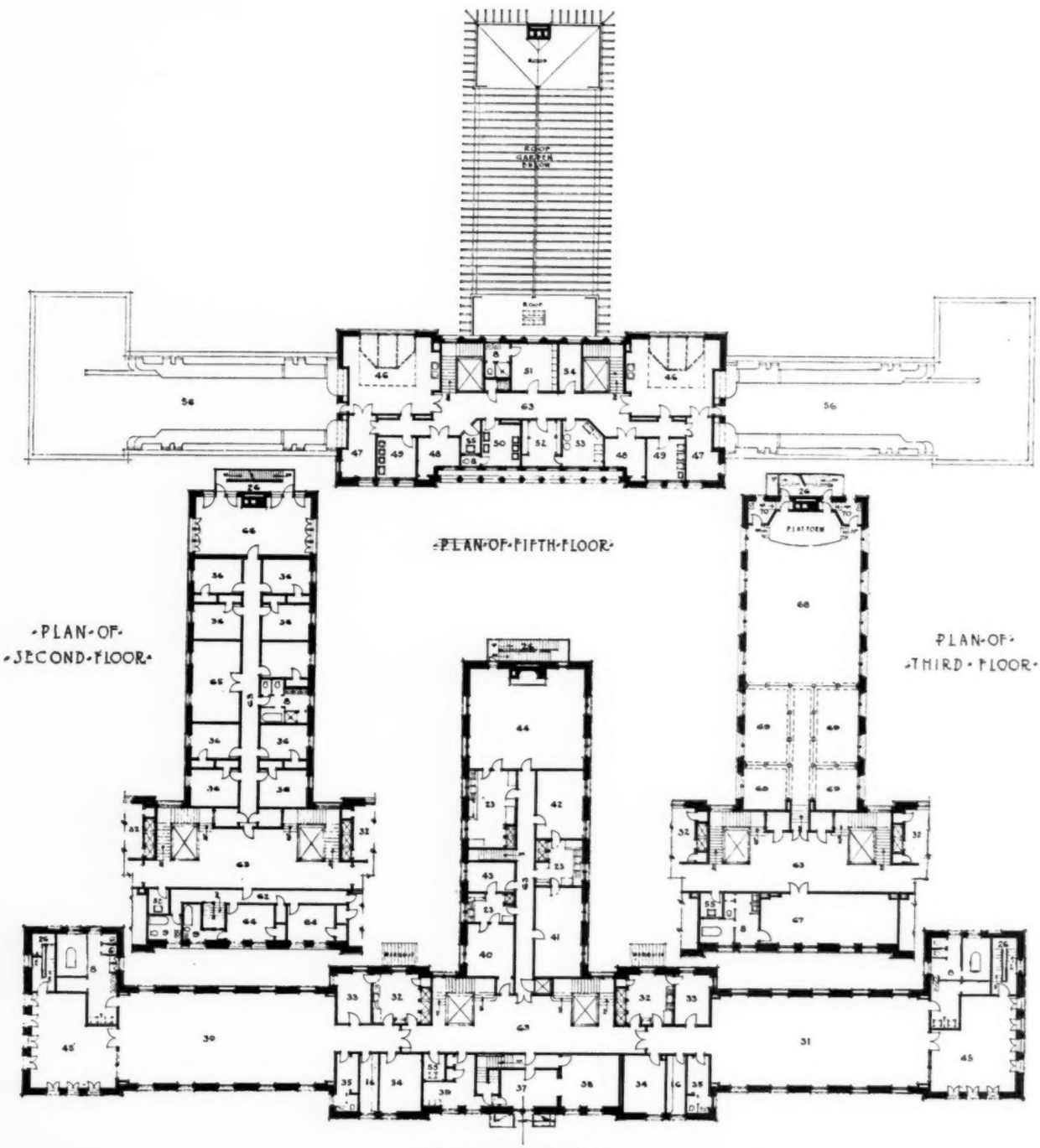

Fig. 5. Greenpoint Hospital—Typical floor plan.

The cost of hospital buildings goes through as wide a range of figures as the cost of a dinner, and nothing is more deceiving than the frequently quoted basis of comparison, the "cost per bed." The cost per cubic foot is a better basis, if made exclusive of equipment, and even this method is not safe until the proportion of floor area actually available for use (exclusive of corridors, stairs, elevators, and other means of circulation) to the total floor area is considered. The real basis of comparison should be this cost per square foot of actual available working space, because it is solely to secure this working space that the hospital is built.

Greenpoint, considered as a unit, with grounds, walks, grading, paving, sodding, and fence, counting all buildings complete, with all permanent fixtures and special hospital fixtures in place—in fact, everything ready for occupancy, except beds, tables, chairs, window shades, blankets, linen, food, dishes, and silver, and instruments in laboratories and operating rooms—totals in cost, $716,500.

Cost per bed (250 patients)	$2,866.00
Cost per cubic foot	.281
Cost per square foot (total floor area)	5.37
Cost available area (exclusive of walls, partitions, corridors, stairs, elevators, etc.)	7.91
Proportion of available area to total area	.67 percent

These figures tell their own story, no matter which basis is taken. The buildings are absolutely fireproof throughout, and have every detail of modern sanitary hospital construction. Nothing has been omitted that careful study and long experience could suggest as necessary.

This group of buildings is owned by the city of New York and built by a city department. Can the private institution make as good a showing?

THE PURCHASE, PREPARATION, AND SERVICE OF FOOD SUPPLIES.[1]

Specially Trained Dietitian a Prerequisite to Good Food Service—Supervisors and Nurses Important Factors—How to Buy Foods With Greatest Economy.

By ELIZABETH A. GREENER,
SUPERINTENDENT OF HACKLEY HOSPITAL, MUSKEGON, MICHIGAN.

PAPER VI.

IN every hospital, whether large or small, there is no one factor that contributes more greatly to its general success or failure than the matter of diet—not only the actual diet of the patients, but that served to every person connected in any way with the institution. It is probable that in no one department of hospital life have greater changes and improvements been wrought of recent years than in their various dietary departments. In planning a hospital, the location of the kitchen, with all of its auxiliary departments, is of the greatest importance. The kitchen itself should be large, well ventilated and lighted, and the working equipment arranged with a view to saving the time and strength of those doing the work.

There are many labor-saving devices for this department that are valuable, not only because of the time saved, but because of the fact that they prevent considerable handling of food supplies, which is always most desirable. Arrangements must be made in some way for the rapid and convenient transit of hot cooked food from the kitchen to every part of the institution, and this is one of the greatest problems that all hospitals face. The advance of medical science, teaching, as it does, the great importance of correct diet in the treatment of disease, shows us the necessity of a system in connection with our institutions that will insure to our patients correct diet, served in the most appetizing and nourishing manner.

We employ a graduate dietitian to take entire charge of this most important work. The experiment was tried of employing a practical housekeeper for this department, but was not successful, special training being found essential for a broad, comprehensive plan of work, and special knowledge required as to dietary values.

Our kitchen is a model in many ways, both as to equipment and convenience. It is in our service department, and connects with the main administration building through a broad basement corridor. This location, being outside of the hospital proper, reduces to a minimum the problem of the smell of cooking food, which is usually such a trial in the small hospital. There are three dumb waiter shafts along the main basement corridor—one in the center and one at each end. These dumb waiters connect directly with every diet kitchen or serving room in the institution, and all food is sent to the wards in this way.

Our kitchen occupies the full width and height

[1] This is the sixth of a series of papers on the internal administration of a small hospital. Last month, "The Housekeeping Department;" next month, "Drugs, Medicines, and Surgical Supplies."

of the service building, and has large windows on each side, with direct ventilation through the roof. Connecting conveniently with it are the special diet kitchen, bakery, dining rooms for the male and female help, cold storage department, refrigerator room, pantries, and the vegetable cellar.

Our dietitian is responsible for the purchase and preparation of all food supplies. We expect her to be the judge of food values and prices, and hold her responsible for all work connected with this department. In this, as in all departments, we endeavor to keep the work on a systematic basis, and in no department of the institution is system more essential.

All staple articles are purchased wholesale in quantities carrying us not less than a month, and certain standard articles—such as canned goods, sugar, rice, and general household supplies—are purchased in sufficient quantity to serve for three months. We have a large, well-lighted store room which we keep entirely for these supplies.

Butter and eggs are ordered weekly, these orders varying with the census of the hospital. We have frequently been able to make very satisfactory contracts with poultry raisers for our fresh eggs for the year at a settled price, and also buy considerable of our poultry from these people.

Green vegetables and perishable goods are ordered each day as required. The economic purchasing of this class of goods is one of our greatest problems, as there is no market center in this city, and the green groceries on which we have to depend are so scattered that it is most difficult to get comparisons as to prices and values without the loss of a great deal of time.

We have done considerable experimenting regarding the purchase of meat, and have finally decided that, in our case at least, the greatest economy and satisfaction are obtained by ordering daily the exact cuts and amounts of meat required. In the large institution, where the quality of the food served throughout the house can be graded, undoubtedly it is much greater economy to purchase wholesale and in large amounts. Our experience, after testing both ways thoroughly, is that in an institution the size of ours the wholesale purchase of meat leads to unnecessary wastefulness and extravagance. The extra work of cutting and preparing meat for use increases the work of the kitchen force, the diet as a whole is not so satisfactory, and the meat bill at the end of the month is as high, if not higher. We purchase entirely of one dealer, get a special price on all cuts, and have excellent service.

We have recently built a vegetable cellar in connection with our main kitchen. This enables us to purchase in advance the entire stock of vegetables required for the winter, which is a great economy and convenience.

The plan we adopt for the storage of vegetables is to keep them entirely in crates, which were built purposely for our use and are collapsible when empty. By the use of these crates we avoid having to use toward the end of the season those vegetables from which the best have been constantly selected. This is what generally occurs when bins are used. The crates, as emptied, are folded and packed on one side of this vegetable room, which is kept at a temperature of 4 degrees above freezing.

For all purposes in the hospital, except cooking, we use certified milk. While the price is considerably higher than that charged by the creameries, it would be a poor form of economy to sacrifice the physical welfare of patients and babies to any mere mercenary consideration, and we all realize that good milk and cream are the greatest necessities in the diet of the sick. All our milk is received bottled, and is kept in its own special section in our refrigerator room. This refrigerator room opens off the main corridor leading from the kitchen. The refrigerators have been built in, and are divided into special sections or compartments. One is kept for fruit and perishable supplies, one for butter and eggs, one for milk, while the meat is kept in a separate refrigerator built for that purpose.

With all regular food supplies we require the dealer to send a slip stating amount or weight of each article. All food is weighed or checked off as received by the dietitian, or, in her absence, by the first cook. The slips are checked and sent to the bookkeeper for comparison with monthly statements submitted. Any food supplies which are not satisfactory or not up to the proper standard are rejected by the dietitian, and the dealer furnishing same notified to remove them and credit to our account.

We make all cake, bread, and pastry used in the institution, and bake every day except Monday, when we purchase our bread for the day. Stale bread is all utilized for croutons, bread crumbs, dressings, and occasional bread puddings.

We purchase only a good quality of food, realizing the ultimate economy of so doing. We also endeavor in every way to have the preparation and service of our food up to the same high standard.

All ordinary cooking and baking are done by one competent first-class cook with a good second cook and a kitchen helper, the work of the latter being largely that of cleaning and dishwashing.

For special diets we have a small well-equipped

diet kitchen, off the main kitchen, in which the pupil nurses do all the cooking, under the direction and supervision of the dietitian. All special diets are prepared here, and also all broths, soups, salads, desserts, and ice cream.

The daily menu for the house is arranged in advance. Each morning a copy of the menu planned for the following day is placed on the superintendent's desk for her approval. This is checked and returned to the dietitian, who places it on a bulletin board in the nurses' dining room. By this simple arrangement head nurses and specials can know in advance what the diet is to be for the following day, which enables them to make out their diet requisitions and special orders with much more judgment and economy than if they were in ignorance of the menu planned until the hour of serving. Each day when the fresh menu card is placed on the bulletin board the one for the preceding day is removed and filed away for future reference if needed. A copy of the menu is also placed in the kitchen each day for the information of the cook and to facilitate the work of serving.

Every evening the head nurse in each ward makes up her diet requisition for the following day. These slips she makes out in duplicate, specifying the entire number of patients in her ward, the number of each on regular, light, fluid, or special diet, and the amount of bread and butter, milk, eggs, lemons, etc., required for the next twenty-four hours. These slips are sent to the special diet kitchen, and the diet list for the following day made up from a summary of same. One set of the slips is kept in the special diet kitchen for the guidance of the nurse there in making up and sending out special diets and orders; the other set is placed in the general kitchen for the information of the cook in sending the correct amount of cooked food to the various parts of the institution.

Staple articles—such as bread, eggs, and other daily supplies ordered in these lists—are placed in special pans and kept for that purpose, and sent up to the ward on the dumb waiter with the breakfast each morning.

The dietitian herself estimates the amount of food required in the kitchen each day for the menu planned. At 7:15 each morning she opens the large store room and gives the cook all supplies needed for the day. The cook brings a specially made light truck with her, which is kept in the kitchen for her personal use in handling and carrying supplies.

At this time the ward maids also come to the store room for supplies needed in the wards for the day. They bring with them a requisition, signed by the head nurse, and also the containers for such articles. Staple articles and cleaning supplies needed throughout the house are given out at this hour.

Immediately after breakfast is served each morning the dietitian and cook together make a careful inspection of all left-over and unused food, arranging to have it utilized immediately to the best advantage. We endeavor by careful planning and judicious purchasing to avoid having large amounts of food left over. A little thought and trouble in this line would spare many institutions the endless service of hashed-up food, which, as a rule, is so intensely disliked by most patients.

Connecting with every ward or serving room is a small, very completely equipped diet kitchen. Each of these diet kitchens has a steam table, with a gas stove attachment. This enables us to have our hot dishes ready for serving food the moment it is received from the kitchen and also to heat anything that requires it.

The food is served from the general kitchen in covered containers, which fit into the steam tables in the ward diet kitchen. These food containers have all been thoroughly heated in the main kitchen, which also has its large steam tables.

We have special trucks that were designed and built for our use, and which greatly facilitate the rapid serving of food. They are double-decked, strong, light, and noiseless, and can be turned in their own length. The food containers are placed on these trucks, rushed to the dumb waiters, and sent up to the wards, where they are immediately removed to the steam tables and kept hot until served.

The trays for each ward are set and ready for service when the food arrives. As our wards are not very large, and as the diet kitchen is centrally located, the trays can be quickly served as completed while the food is hot and appetizing.

By sending the food to the ward in which it is to be served, and having it again well heated if necessary before serving, much better service can be effected. A central serving room, in which all trays are served, is certainly a great convenience, but it is nearly impossible to send trays to distant parts of the house and keep the food hot in transit. We have found our ward diet kitchens, with their steam tables and heating equipment, invaluable in this work.

The coffee for the institution is made in the general kitchen and sent to the various parts of the house in coffee pots, in which it can be heated before serving. All tea is made in the ward diet kitchens in the little individual tea pots, and served immediately. Eggs served to patients are always cooked by the nurses in the ward diet

kitchen, and most of the toast used is also made there.

For service in our private rooms we use the large oblong white fiber trays, which are both light and noiseless. These are placed on the regulation bedside table, which can be swung across the bed or placed at one side, as preferred. In the general wards we use the wooden trays, with low back and sides and short feet. These can be placed across the bed for a convalescent patient or on a bedside table. Children or helpless patients are always fed by the younger nurses.

We are very careful about the appearance and cleanliness of linen used on trays. Even in the general wards each tray has its cover and its service napkin. These are changed daily, and oftener if necessary. The ward china is of plain white, while the decorated china is used in the private rooms.

The food served in the nurses' dining room is sent up in the same manner as that sent to wards, and the service in their dining room is individual, which insures their having hot and appetizing food. All table linen in the nurses' dining room is changed three times weekly, or oftener if necessary. Table napkins are changed each day.

After the service of the meal is completed, all food remaining in the containers is sent down from the diet kitchens or serving rooms on the dumb waiters and removed to the general kitchen, where the cook takes care of it and puts it in a special section of the ice box until the next morning, when it is utilized in some way during the day. Food returned on trays is placed in a special container, and sent down to be disposed of in the garbage cans.

A very important point for consideration in the matter of satisfactory diet lies in securing all possible variety and avoiding having a set schedule for the meals of a week. Could anything be absolutely more discouraging than the definite certainty that the week would be ushered in on Monday with roast mutton and end with equal certainty on Saturday with all the delights or horrors, as the case may be, of a boiled dinner.

After all, the most important work in the service of satisfactory food rests largely with the nurses themselves. They must be impressed with the importance at all times of serving correct diet in a dainty and pleasing manner. The head nurse in the ward should be taught that supervision of tray service is one of her important duties, and one not to be relegated to the younger nurses, but performed under her immediate jurisdiction.

FIRE PROTECTION AND FIRE DRILLS FOR HOSPITALS.

Every Institution for Care of the Sick Should Be Carefully Organized for and Drilled Against Fire Emergencies.

By C. W. HEJDA,
ENGINEER AND CHIEF INSPECTOR BUREAU OF FIRE PREVENTION AND PUBLIC SAFETY, CHICAGO.

"HOSPITAL efficiency" and "hospital progress" are two topics which are commanding national attention, and it is gratifying to know that the question of fire drills is included in both of these subjects. Fire drill, which goes hand in hand with the present-day "fire prevention" movement, is one of the most important safety measures known to modern times.

Owing to the vast differences in hospital buildings in respect to construction and general arrangement, it is a difficult matter to set up any specific rules and regulations for instituting and conducting fire drill exercises, as each hospital or similar institution presents its own individual problem. The organization of their staffs, interns, nurses, and employees are, however, quite similar, and the same general plan can be used as a guide. Before taking up the question of the organization, a few words on the construction of the buildings and their fire protection would not be amiss.

In general, all buildings should not only be of strictly fireproof construction, but should be divided into as many sections as practicable. The dividing walls should be of masonry or concrete not less than 12 inches thick, and all openings in these walls should be protected by standard steel or metal clad doors. Subdividing in this manner applies to buildings of any construction, and it is readily noted that a fire starting in any section can in all probability be confined to that particular section in which it starts, and patients can be moved to adjoining sections without being exposed to the outside air. All stairways and elevators should be protected by strictly fireproof inclosures. Good, substantial stairway fire escapes of sufficient number and ample width should be installed. All exit doors should swing outward, and all means of egress should be properly indicated by signs and red exit lights.

The buildings being prepared to afford a rapid, safe, and easy egress to the occupants, the next step is the installation of an efficient and reliable fire alarm system. Although there are numerous

systems on the market, the one chosen should be simple in construction and of the closed circuit type, which is constantly under test. The boxes should be well distributed and mounted in easily accessible locations. Electro-mechanical or other suitable gongs should be installed in the office of the warden and in the nurses', interns', and employees' quarters, and small bells, buzzers, or visual signals should be installed at the head nurses' desks in the various wards.

The hazardous portions of the buildings should be protected by automatic sprinklers. Standpipes with sufficient 1½-inch unlined linen hose, and kept under constant pressure by automatically operated fire pumps, should be installed. In addition to this, reliable portable fire apparatus, such as chemical fire extinguishers or hand pumps, should be well distributed throughout the buildings.

Next comes the organization of the fire brigade and exit drill corps. Great care should be exercised in the selection of their members, as the efficiency of the fire drills will depend largely on the organization. The following may be used as a guide: chief of brigade, warden; assistant chiefs, assistant warden, night warden, fire guards if any; standpipe corps, three men; fire pump operator, one of the power plant engineers; portable apparatus corps, six or eight interns; carrier and cart corps, as many men as available; nurses' corps, all available nurses; inspector.

The chief of brigade should be in full charge of both divisions, or, in the event of his absence, the assistant chief on duty should be in charge. The standpipe corps should consist of at least three men—one for the nozzle, one at the valve, and the third to help out the other two. A sufficient number of simple canvas carriers and wheel carts should be available, so that patients can be readily moved. The nurse corps should be on hand to prepare patients for removal and to quiet excitable patients. The inspector should be a reliable man, and should inspect the buildings and fire apparatus, so that no defective conditions will be allowed to exist. The brigade and exit drill corps should be governed by a fixed set of rules, and rigid discipline should be enforced at all times. Drills should be held at least twice a month, and should be practiced as near to actual fire conditions as possible.

Rules may be drawn up somewhat along the following lines:

NOTICE—IN CASE OF FIRE.

The person discovering the fire will immediately turn in an alarm by (give here the directions for operating the fire alarm boxes).

In the event of an alarm being sounded:

1. The nurse in charge of the affected ward and one assistant will immediately operate the fire extinguishers available.

2. The fire brigade and the exit drill corps will respond promptly and report directly at the scene of the fire.

3. The standpipe corps will operate the standpipe hose.

4. The engineer will station himself at the fire pumps.

5. The portable apparatus corps will act on order from the fire chief in charge.

6. The carrier and cart corps will mobilize as many carts and carriers as necessary at the endangered ward.

7. The nurses' corps, quietly and without giving cause for any unnecessary alarm, will prepare the patients for immediate removal. (A blanket placed over each patient is considered adequate as a general rule.)

8. Patients will be placed on carts and stretchers and taken to the nearest ward out of the danger zone.

9. The head nurse of the threatening ward will be in control of fire operation until the arrival of a commanding officer, after which he will assume complete charge.

10. Until the arrival of the city fire department, all hospital attaches and employees will be in charge of the interest and well-being of the patients.

11. All attached persons and employees who refuse to respond to a fire alarm call, and who fail to provide satisfactory reason for such failure, will be subject to suspension or dismissal from the service.

As stated before, each institution will present its own problem. Nevertheless, with the foregoing suggestions, together with the use of common sense, efficient fire drills can be obtained, which, if diligently and earnestly exercised, will result in the proper safeguarding of human life and property.

The American Institute of Banking, which has a membership of 15,000 bankers, plans to establish a sanatorium somewhere in the West. Locations in Colorado have been considered. The institution will be devoted largely to the treatment of nervous break-downs and kindred afflictions.

The city councils of Philadelphia at their last session appropriated the necessary funds to complete a power plant at the new Home for the Indigent on the outskirts of the city. When this institution is entirely completed, all the indigent now quartered at the Philadelphia General Hospital will be sent to the new home, thus permitting the Philadelphia General Hospital to expand.

MOVING PICTURES IN MINNESOTA STATE INSTITUTIONS.

With Careful Selection of Subjects, These Entertainments Are Made Useful as Well as Enjoyable.

By MIRIAM E. CAREY,
SUPERVISOR INSTITUTION LIBRARIES, MINNESOTA STATE BOARD OF CONTROL.

MOVING pictures have passed the experimental stage in the state institutions of Minnesota, and may be said to have been accepted as part of the equipment necessary for efficient service. Not only are moving pictures "the most successful and easily obtained entertainment we have had" (to quote the words of Dr. R. M. Phelps, of St. Peter Hospital for the Insane), but they are believed to provide an educational medium of great value.

For four or five years moving pictures have been in occasional use on holidays and at other special times in several of the state institutions, but within two years eight of these have decided to add the "movies" to their permanent equipment. The pictures are shown at intervals ranging from two or three times a week, as at the Rochester State Hospital for the Insane, to several times a year at the School for the Deaf in Faribault. The St. Peter Hospital for the Insane has a plan for sixteen or twenty shows during eight or nine months of the year. The Boys' Training School at Red Wing uses them every ten days, and the State Reformatory at St. Cloud twice a month.

Several of the institutions have their own machines, and have them operated by some "mechanical genius" on their several staffs or by the engineer; others hire the whole local plant—machine, films, operator, and sometimes the musician. Most of the institutions that have their own machines hire the films; so, if the question of the comparative cost of owning or renting is raised, it would be hard to determine which is the cheaper. Taking into consideration the danger of fire and the need of having a capable operator, as well as the fact that up to now no machine has been presented as ideal, many of the superintendents have felt justified in waiting until what one of them calls a "fool-proof" machine shall have been invented before buying. The estimated cost of hired shows every two weeks for eight or nine months is a little more than $200. One institution pays $7.50 for three films as one entertainment lasting an hour and twenty minutes.

All the institutions select the class of pictures which best suit their purposes. It has been found necessary to do this in order to avoid the risks of getting material that may tend to degrade morals, and also to secure those pictures that will give the most lasting satisfaction. This regulation of the films has not proved a difficult matter to manage. The state prison's method is to let the film people know a week or so ahead of the date on which the pictures are to be shown, suggesting the kind of pictures desired, and those wanted are usually obtained. Travel pictures and comedy films seem to be the most popular. To quote from the superintendent of the state reformatory:

"We are attempting to show pictures of an educational nature, with enough clean comedy so as not to make the pictures irksome. Tonight we give an entertainment, and the three reels are, 'Cutting California Redwood,' 'More Rare Specimens and a Few Old Friends, New York Zoological Park,' 'Beautiful Valley of Toronto,' and 'All on a Summer's Day.'"

The pleasure the moving pictures afford the whole population of an institution cannot be overestimated. Officers, employees, and inmates are highly entertained, refreshed, and given something different to think about. The following are some of the comments on this phase of the subject:

"It is the best amusement that we have ever attempted in our institution, and brings out from 50 to 60 percent of our patients. We think the results are highly beneficial. As compared with dances, we find the moving pictures reach a much greater number of patients."—Dr. Kilbourne, superintendent Rochester State Hospital for the Insane.

"These entertainments are more popular than anything else we have for our children."—Dr. Tate, superintendent School for the Deaf.

"The patients enjoy the dances very much, but these get a little monotonous toward the end of the year, so I think they would really get more pleasure the year round from moving pictures."—Dr. Welch, superintendent Fergus Falls State Hospital for the Insane.

"All of the inmates and a large part of the employees attend these shows. All of the pictures are enjoyed."—Superintendent Fulton State Training School for Boys.

At the state prison practically all the population attend the shows, which "seem to be as popular as, if not more popular than, any other form of entertainment we have provided, unless possibly the annual Thanksgiving show given by a theatrical troupe from St. Paul."

At the state reformatory all the inmates attend these entertainments. The selection of the films is left to the superintendent, who does not permit questionable pictures. "I believe," says Superin-

tendent Reed, "that moving pictures can be made a very valuable form of amusement for an institution of this character."

The Minnesota institutions have also been buying phonographs and victrolas for upward of ten years for the former and with increasing frequency for the latter. Both instruments have "made good" as means of diversion, recreation, and even pathological benefit.

Before moving pictures were invented or victrolas were dreamed of, books and periodicals were considered the most feasible means of recreation possible in institutions. This still holds good for the somewhat limited class to which books appeal. The libraries of the Minnesota hospitals are considered valuable from the standpoint of recreation, and are selected and administered with that end in view.

In the administration of a hospital library, location is a most important factor. If the books are kept in an attractive, centrally located place, to which the patients can go in person, several things have been accomplished besides the mere housing of books. The patients enjoy their little journey from the wards, and appreciate the opportunity to select the book they prefer. If the room is furnished in such a way as to afford an opportunity to take a chair and read a little, so much the better.

In Minnesota it has been found practical to have patients act as librarians. This affords a stimulating occupation, which acts almost as a tonic on the patient and which answers the purpose of keeping the library open regularly and systematically. This works very well in Minnesota, because the responsibility of the administration of the libraries is put on a supervising librarian, who has charge of the records, classification, and other details of management, and who stands ready to help the patient at any time. A standard system, resembling as much as possible that used in public libraries, has been introduced, not only for its value as a system, but also because the work entailed in keeping up the system is believed to be beneficial to the patient-librarian.

While recreation is the purpose of the hospital library, in institutions containing schools, including the prison and the reformatories, the function of the library is educational and ethical primarily, rather than recreative. The selection of books for the several institutions must take into consideration the object of each library. Great precision of choice is required in order that the books in the different libraries may be tools to help work out the problems peculiar to each institution.

Books and periodicals, moving pictures, phonographs and victrolas—these and other means of recreation and uplift are in use in all of the Minnesota institutions, in varying degrees. Without these additions to the scheme of things, the routine of life would lack some of the factors essential to complete success.

Since the above paper was written the following letter was received from Dr. A. C. Rogers, superintendent of the Minnesota School for the Feeble-Minded and Colony for Epileptics:

Your letter remained unanswered because we were trying to fix the date of the purchase of the first moving picture apparatus which this institution ever possessed. We do not seem to find the record, but I know it was the season following the Omaha Exposition. At that time we purchased about one-half dozen films, and they were of great interest to the children. After awhile the type of films changed so that we could not secure those that would fit the old apparatus. A small Edison machine was then purchased, but it was never very satisfactory, and we gave only a few exhibitions with this machine. Of course of late years the whole system of "movies" has been standardized, and we have for two years owned one of the Powers machines and aim to give an exhibition twice a month. The only difficulty we experience is in securing the right kind of subjects. The houses who manufacture films, and there are several, furnish leaflet catalogues giving the firm number and the name of the film. These names, however, are not sufficient indication always of the character of the illustrations. Where we have been unable to see the films in advance or to talk with some one who has seen them, it has usually been most satisfactory to explain to the dealers the general character of the films we desire and leave the selection to them. The rental price depends on two things—first, the general character of the film as to expense of production, etc.; second, its age. The films are sent out with instructions as to date of release, and no films are permitted to be shown before the date of release, so that any given subject is presented as a new subject at the same time all over the country. After any given subject has had a run, it can be rented at a much lower price than could have been had at first.

We are usually able to get three 1,000-foot films, enough for one evening's entertainment, at a rental of about $6 per evening. These have to be definitely rented for a given date, because they are usually booked for some other place the succeeding day. There is no restriction, however, on the number of times the films are used on the day for which rented.

There is nothing that appeals to our children and holds their interest like the "movies." At least three-fourths of our population would enjoy the "movies." Owing to the limitations of our assembly hall, however, we can entertain only a little less than one-third of the population at one time. We sometimes give a matinee and evening exhibition, however, and in this way give the benefit to a larger number of children. The machine is operated by our electrician.

As is the case with children elsewhere, the more excitement there is manifested by the pictures, the better the children like them. We try, however, to eliminate subjects in which there is carousing, drinking, flirtations, elopements, etc. Weekly current history films, high-class plays, actual life and activity in nearly every form, with the exceptions as noted above, are proper and interesting. The films technically known as educational films are nearly all of them proper and satisfactory.

The MODERN HOSPITAL

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Disreputable Hospitals.

There are many hospitals in this country that are a disgrace to everybody connected with them. Some are immoral in one way, some in another, and some of them are immoral in their very essence and in every way. Some are notorious abortion "parlors," some of them have a reputation for the immorality of the training school, some are distinguished by a reputation for shady transactions in their financial dealings. Fortunately these institutions are the exception and not the rule, but they infest every community of considerable size.

Of course the public generally is responsible for disreputable hospitals, because if they did not patronize them they would not exist, but the public is not always discriminating, and individuals in the community do not always know what is best to be done about their own cases, and must rely on their physicians to guide them properly. So that out in front of the public stand two definite factors that are responsible for disreputable hospitals—first and foremost, members of the medical staff, who not only know what a decent hospital is and what a disreputable one is, but they also know that without their support such hospitals could not exist; the second responsible factor is the trustees. Trustees, as a rule, are not very intimately informed about the doings in the institution over which they are supposed to preside, although there are generally two or three or more members who are posted, and without whose connivance disreputable institutions could not remain so.

There is a definite code of ethics in the medical profession that bespeaks decency and honor in its membership concerning professional matters, but members of the medical profession belong to the most intellectual class of people. As a rule, they are what we call gentlemen and ladies. They know what correct conduct is, and they know what personal morals mean. It is true that it is a difficult thing for a member of the medical profession to make very much headway in the profession unless he or she is connected with a hospital, but a disreputable hospital never helped a physician and will always hurt. It will be far better for a physician to have no hospital connections at all than to be associated with one known to be immoral.

Society is divided for different purposes into various classes; we sometimes divide hospitals as large and small, as general hospitals and special hospitals; but there is another classification—good hospitals and bad hospitals—and every hospital in this world comes under one of these two heads.

Attending hospital staff members, men and women, who strive for decency, and who have ideals and hopes and ambitions, would better look into the question of the morals of the hospital with which they are associated as well as its efficiency in professional directions.

There are two alternatives for a medical person who finds himself or herself associated with a hospital of questionable virtue. One is, and the first one, to raise the biggest kind of a row with the board of directors and with those who are in the habit of giving toward its support, and in this way, try to correct the morals of the institution; if this cannot be achieved, then the other alternative—get out, and persuade all the other decent people in the institution to get out.

Hospital trustees are anxious for the material success of the institutions over which they are supposed to preside, and a board of directors will think twice before deciding to continue a course of action that it has been forewarned is to lead to the abandonment of the institution by the medical men necessary for its success. So that, in a final analysis, medical men in hospitals have it within their power to correct the morals of any institution with which they are connected.

Nearly every disreputable hospital that this present writer knows about, and he knows a good many, has on its medical staff at least a few men

who are respected in the community, and who by their course of conduct in life are entitled to that respect; but this present writer does not know one single professional man connected with a disreputable institution who is not hurt instead of helped by such connection.

The initial thought that inspired the writing of this apostrophe against disreputable hospitals had for its object the attempt of certain hospitals to lure into their training schools innocent, conscientious, and honest young women. Some of them ought to be convicted of a violation of the Mann white slave law, and their directors ought to be in the penitentiary.

Is it not time that members of the medical profession connected with hospitals that are here referred to should think of these conditions and cure them in one of the two ways suggested?

Are Small Hospitals Slighted?

Every once in awhile we hear some hospital worker, who happens to be administering the affairs of a small hospital, ask why it is that the American Hospital Association ignores or slights the small hospitals, and some most efficient hospital workers are lukewarm in their fealty to the association because they feel that this is so. Let us see whether the facts bear out this judgment.

There are fewer than 200 hospitals in this country that have more than 200 beds each. Two years ago there were 6,500 hospitals, all told; so that only one-thirtieth of all the hospitals belong to the so-called "large hospital" class. Is it a fair presumption that these few institutions could dominate so many? The American Hospital Association is made up of members, each of whom has precisely the same right to vote on any subject, and every vote has precisely the same value.

Does any member of the association remember an occasion, at any convention, when anyone was refused the floor because he or she belonged to a small hospital? Or when any speaker received anything but most respectful attention, whether he or she represented a small or large hospital? Can any member point out any instance when the then president showed any slight of the small hospitals in committee assignments?

At Boston there was a section on small hospitals; the planning of this separate section was an exceedingly tactful piece of work on the part of President Washburn and his executive committee, and had for its object other things besides the greater expedition of business.

The fact is that the thinking members of the association have known for a long time that the superintendents of small hospitals have seemed disinclined to enter into the discussions, and backward about expressing themselves on their feet in the meetings. It was felt that if some meetings could be held in a section definitely designated as of the "small hospitals," the members would overcome this diffidence and that they would eventually take courage to pick up the work of the conventions and go forward with it, forgetting themselves as individuals, and considering themselves as parts of a big, working whole.

The experience in the section on small hospitals at Boston developed the correctness of this assumption. On the morning when the section on small hospitals first convened, there were perhaps 300 members present, while at the same time, in the section designated "large hospitals," there were less than twenty people. The transactions of the meeting will show that, while in the "large hospital" session of that morning there was discussion of the papers by less than half a dozen persons, in the "small hospital" section sixty-five pages were occupied with the proceedings, and nearly fifty persons took part.

Administrators of the small hospitals are in great need of the experience and counsel of those in charge of the large hospitals, because, as a rule, the large hospitals have more money to try out new things and more expert help to give proper direction to new and empirical practice in various directions. The small hospitals should have the benefit of these expenditures and these experiences, and a capable administrator can profit in many ways by these experiences as they are told at the conventions in papers and discussions.

But the large hospitals need the smaller hospitals even more. The administrator of the large hospital can never be so intimately in touch with details of his work, because he has more ground to cover in his institution's activities. It is true, he has his heads of departments, but there is in all heads of departments a lack of perspective; the department head sees things only from his or her necessarily narrowed viewpoint. The administrator in the small hospital is close to all his or her activities, and views things from the broader angle of a general service covering every part of the field, and so is equipped to give information on the working out of new practices which should be of inestimable value to the administrator of the large hospital.

So, why not each one chip in his or her share, the sum total of which makes up what we have come to call hospital efficiency? No one is sufficient unto himself, and the administrator of either a large or small hospital who is content to

sit down within four walls and assume to deliver the intellectual "goods" to his board of trustees, his medical staff, his public, and his patients, will very soon find that all these factors are combined to replace him with some one more closely in touch with what other similar institutions are doing.

Better join the American Hospital Association, and be a figure in the fight for better things in our great work of caring for the sick.

Record Forms in Hospitals.

It is a mistake for hospitals to load themselves down and complicate their routine practice with record forms that are never used. Not very long ago a certain piece of administrative technic was suggested to the superintendent of a hospital as an answer to his inquiry for the cure for an abuse that had crept in.

"Oh, we had a form like that when I came here," he said, "but I threw it out as one of many forms that had been instituted at various times and that were never used." In further explanation he stated that it was found almost, if not quite, impossible to get the people, from attending physicians down, to use any sort of record forms, and that the institution was then running with hardly a form in everyday use in a proper way.

On closer inquiry it was found that the hospital had changed superintendents frequently, and that each one had added new things without cutting out the old. One of the older employees, who had remained, by reason of unquestioned merit, through succeeding administrations, said, in a meeting held to discuss the matter of forms, that there was an excellent spirit in the institution, that everybody would be glad to have things done according to some well-thought-out system, and that everybody felt the hospital should be under better discipline and that real records should be kept; but the trouble had been that an untrained superintendent would come in and print up a lot of records which the older and better qualified employees knew were worthless; so they would not be lived up to; then another superintendent would add other forms of the same kind; eventually the hospital had got into a rut, and practically no forms were kept up. The doctors had even ceased to grumble about the lack of proper records of patients.

One may easily picture what sort of a hospital that was, and what kind of a training school, and what kind of interns, and the state of the institution's finances and accounting department. Nobody cared—what was the use of caring? *En passant*, things are different there now.

But the point to be made is that records are established to meet some real need, and whatever records there are should be lived up to. Some great executive once said, in insisting on the enforcement of a most unpopular law, "If it is a good law, it ought to be enforced; if it is a bad law, enforce it, so that the people who made it will promptly revoke it."

Hospitals should run true all the time. If there is no pathological work to be done, why make the sham of keeping records about pathology? If there are no special diets, why keep special diet charts? If histories of patients are not written, why have history forms? If the nurses have not sufficient time to keep the nursing charts on their cases, either cut them down and require less, or change the nursing conditions so that they will have time.

An unfilled record is a false record, and an institution that keeps false records, especially an institution to care for the sick, whose whole existence should be predicated on honor and conscience, should be closed down, and its sacred work placed in hands more fit to do it.

Would it not be a good thing occasionally for hospitals to canvass this problem—cut out record forms that are not needed and that cannot be properly used, and make some sort of effort to keep properly those that are retained?

The United States Public Health Service.

Unless one has the facilities and the necessary stimulus of personal or business interest to keep posted on health matters, one will hardly conceive of the immense amount of service, of the tremendous activities, under the new regime in the Public Health Service of the Government. Just for a sample: the service publishes a weekly bulletin of its current activities; in the week ending April 3 the following were a few of the matters in which the service was actually engaged: quarantine at Angel Island, California; leprosy in Hawaii, Oakland, and Washington, D. C.; rats and squirrels caught and examined in Venezuela, China, Zanzibar, and California for plague; spotted or tick fever in Odessa; cholera carriers at Honolulu; examination of rats and mongoose in Hawaii; quarantine officer's report from Debai, Arabia; plague in Amoy, Hongkong, and Shanghai, China, and examination of rats by Public Health Service surgeons; besides these, there are health reports from nearly every state in the union and from nearly every foreign quarter; there are papers in the bulletin prepared and

read by officers of the service on various health topics before scientific, civic, and governmental bodies in nearly every part of the world.

There probably was never a more efficient body of men got together in any capacity anywhere in the world than the personnel of our present Public Health Service, and our people should be filled with pride, especially in these days when it seems to be the approved fashion to graft on and exploit the public by every agency that has the opportunity.

Why Praise Texas?

In a letter to THE MODERN HOSPITAL, published on another page of this issue, Secretary Newton, of the Texas Public Health Association, calls attention to the splendid work his state is doing in the creation of public hospitals to meet the growing needs of the people.

Texas is a great empire all by herself. No one could breathe in the ozone of her broad prairies without wanting to go out and do things just to burn up the surplus energy. The state is big, her prairies are almost boundless, her gulf coast is long and brings the world to her door, her farms are kingdoms and every farmer a king. Texas has fought her own battles; her Alamos are the monuments to her heroic and independent spirit; she showed what she could do alone and unaided in the long ago past, and is as undaunted and unafraid today as when her sons and daughters dared the huge peril over her borders, and stood up victor in the fight.

How could Texas help doing things? The very air is full of action. But, having proved her metal in a thousand martial ways, she has now turned her swords into ploughshares; her sons and daughters are amazing the world with their accomplishments in the paths of peace and industry.

But if she has the courage to fight, and a strong arm for the protection of her hearths; if she has the brain and the brawn to lead in the arts and the industries, she also has a heart to sympathize with the unfortunate and an open purse to back up her sympathy.

Why should Texas be praised for building noble hospitals, and for taking care of her sick? She couldn't help it—she is Texas.

Items of Hospital Efficiency.

In the March issue of THE MODERN HOSPITAL appeared, in a signed editorial, the introduction to a series of eight papers on "Items in Hospital Efficiency," by John A. Hornsby, and was followed in the April issue by the second paper, "Hospital Pathology." It was the intention to have the third paper, "Hospital Physical Therapy," appear in this issue, but it was crowded out, and will appear in the June issue.

Our May Cover Design.

Our cover design for this month is an excellent illustration, in perspective, of the Elizabeth Steel Magee Hospital, a modern institution for women, at Pittsburgh, Pa. A detailed description of this institution, with illustrations, appears in this issue, and is well worth the careful perusal of everyone connected with hospital administration.

WHAT IS MUNICIPAL ISOLATION?

Health Commissioner of Chicago Argues for "A Hospital Free for All and Good Enough for Any."

The Chicago Medical Society, by its propaganda committee, has had under discussion for some months past the problem of isolation for patients suffering from the acute, communicable diseases. Dr. George B. Young, commissioner of health, has not been in entire harmony with the committee's views. Dr. Young's "slogan," as he calls it, has been "A hospital free for all and good enough for any." Dr. Young believes in one large central hospital for the time being, with the mental reservation to let the future develop a need for other hospitals in other parts of the city.

The propaganda committee believes in three hospitals, one for each geographical division of the city, and believes further that well-to-do patients should be admitted to private accommodation, should be charged regular fees in proportion to the luxuries furnished, and that they should be permitted to have their own private physicians to attend them.

This question of isolation is extremely important. It is undergoing some quite radical changes of late, due in part at least to our new viewpoint in regard to the technic of isolation. It is for this reason that Dr. Young's position is important. The following is a report, taken verbatim and published without change, of a statement by Dr. Young, made at a public hearing of the propaganda committee of the Chicago Medical Society on March 28th last:

ARGUMENT OF HEALTH COMMISSIONER YOUNG.

Where problems are under discussion it is a good thing to start off with a definition. It is very evident that the principal trouble about this matter is that there has been a very hazy idea in a great many minds just what we were talking about.

First, I want to combat with all the force I can, and I will go on combating it as long as I am in a position to do so, the idea of this talk about charity patients. This communicable disease proposition is a community proposition. The community does not hospitalize a child for the protection of the child, except as a secondary proposition. Humanity decrees that we shall provide for cases that cannot be otherwise cared for, but it is not for that reason that we want an efficient hospitalization for contagious diseases. In London, where 95 percent of the scarlet fever cases are hospitalized, the chances of a child growing up without scarlet fever are nine times as great as in Chicago. The hospital is for the protection of the public—not for the protection of the individual sick patient. That is what a contagious disease hospital is for in this munici-

pality. It is a duty which the municipality owes to itself, to provide protection. It says to the individual, "You have something of which I am afraid; therefore you must be subjected to certain restrictions." Very good. Now, if the individual is in a position to bear the burden of those restrictions without any special hindrance, all right. But the individual may not be, and thousands of people who are in fairly comfortable circumstances are not—not on account of the immediate expense of caring for the patient, but on account of the inconvenience and trouble that come to other members of the family. This, as I have repeated over and over again, is a community problem. The community owes it to itself to provide a place where they can take the people—for its protection, not for theirs. I am not concerned in the least with the patient in this point of view, or with the family of the patient. I am concerned with the duty which the community owes to itself, for its own protection, for the protection of my children and your children.

How can it best be done? I object very much to this idea of charity. It is not charity. When the city maintains public bathing beaches and bath houses which everybody can go to, those who go there are not objects of charity. It is simply taking advantage of one of the welfare opportunities which the city places at the disposal of its citizens.

The city has an obligation to perform in regard to the care of contagious diseases on the hospitalization side. The person who goes to that hospital is not an object of charity at all. And that is why I have taken for my slogan, so to speak, in this matter, "A municipal hospital free for everybody and good enough for anybody." If the city is going to have a hospital, it ought to be built, and managed, and supplied, and conducted in every way as well as anybody could want to be cared for. In other words, there will not be in an institution of that kind two classes of treatment, or two classes of anything. Chicago is not a town in which it would be a healthy proposition. Anybody who wished to get a referendum on that proposition would be snowed under very quickly, I think, on the proposition that the city institution should provide two classes of accommodations—one for those with money and one for those who do not have as much.

We want to first build the central hospital. If, in the years to come, it is necessary to build others, well and good. That is for the future. But we want one good place to start with.

The person who avails himself of accommodations of any kind which are provided by the community for the community good is not a recipient of public charity, no matter how poor he may be.

Now, in regard to the feasibility and the need. Unquestionably there is a great need for a place where patients sick with contagious diseases can be sent, other than the public institutions, to which they may not care to go. That rests with them. Everybody is entitled to his opinion if he can afford to pay for it. The law in Chicago permits any hospital to care for contagious diseases. I don't know when it was changed, but it was that way when I came in, in June, 1911, and has not been changed since. I have always wondered why it was that the physicians of Chicago did not get together and establish a hospital of that kind. I have no doubt it could be made to pay, and it certainly would fill a very great want, because many people want that kind of accommodation.

Regarding those taken sick with contagious diseases in hotels, it is entirely possible to take care of a member of a family taken sick in a hotel. All we have to do is to put a placard on the particular door, not in the corridor, and, if they are able to pay, put a nurse in charge of the patient, and there is no trouble—they don't have to go to an institution.

Coming to boarding-houses and places of that kind, it is a different problem. Those people, of course, would have to go to a public hospital.

There are certain things in regard to the public hospital of which I want to speak very briefly that do not make it, as I see it, a desirable thing to mix the two classes of patients. Within the last few months I have visited a number of the contagious disease hospitals in the United States, and have talked with the men running them and the people under them, and I have not found anybody who thinks it is a very desirable or successful plan, from the administrative side, to run the two things together. In Philadelphia they have a very elaborate place, and they have hardly anybody in it. I was there in December, in the season when there were lots of contagious diseases in the city. In Baltimore they have a private building. In Cincinnati they also have a private building. New York has had a private building, and they care for a great many. And this is what happens, because people are human: if you have two different classes of people in an institution—one class in private rooms, with special nurses and a separate class of attendants—it means that there will be presents from grateful patients, there will be gratuities; there will be tips, if you like, that, in spite of all you can do in the way of management, will filter out from those private rooms and the special class of patients into the pockets of those who attend them, and when you have two sets of people in the same institution—one set is getting all the attention and the other set is getting none. This is bound to happen. You cannot draw a parallel between a general hospital, which has certain public wards where they take charity patients and certain other wards where they take patients at very reduced prices, and private rooms at $15, $25, and $50 a week, and an institution for contagious diseases, because in the institution for contagious diseases you have got to have a very technical kind of ward administration. You can't change your administration to suit one man—whether doctor or patient. It has got to be the same every day. If it is not, the plan breaks down.

We are going to build a hospital on the modern cubical plan. The foundation is contracted for, and the plans for the first pavilion are completed, and we will add to that. The operation of a hospital of that character depends on the careful training of the individual nurses and medical attendants. We all know the doctors go back and forth, and the Lord is good to us, because diseases are not spread so much by third parties. But when you have a cubical or any other well-ordered hospital, you have got to have sick call at certain times. There must be certain definite hours when the visits are made; when the medicines, if such are needed, are prepared; when the orders are given as to the diet and routine treatment during the day, and another sick call at night. And so you cannot have medical attendants coming in at all times and breaking up that routine. It is absolutely out of the question, unless you are going to put it on a pay basis. If you do, it will mean that this class of pay patients will have not only their special attendants, but will get a little the best of it all the time. The cost of care for those people, not only in money, but in administrative efficiency, in the breaking up of established routine, in the shattering of daily order of the general business to be transacted, is going to run into a great deal of money in the course of a year.

The patient who goes to the municipal hospital is entitled to the best that the city can give him—the best bed, the best nurse, and the best of everything that he can get for money—within reasonable limits, and that is what we propose to give these patients.

As to physicians and the family seeing these patients, they do not pass entirely—as much as Dr. Ritter spoke of—out of their hands. There will be certain visiting hours every day. There will be a glass-lined corridor, to which visitors can be admitted, which will be entirely separate from the patient. A mother can walk down to the number of her child's room, pull the curtain aside and see the child. She talks into a telephone right in front of her. A dictagraph alongside the bed, which is delicate enough to take even a child's whisper, will be in each room. The child can talk to its mother without raising the head, and the mother can talk without any trouble at all. She sees the patient and the patient can be communicated with. There will be no cutting off of communication, or anything like that.

We chose the site for this hospital for several reasons. It is directly southwest. The center of the industrial population is moving steadily southwest. We went about a mile and a half southwest, or thereabouts, of that center, and directly in the path of that industrial population as it moves. We went to a place where we would be on the main backbone of the boulevard system of the city, on California boulevard—you can get anywhere from there. The outer harbor of Chicago is going to change conditions about the lake traffic. We expect to have a motor boat ambulance to work in the vicinity of the river, to be in service in the outer harbor. It can come right up the river to the Drainage Canal and to the hospital grounds. We expect to build out of reinforced concrete, which will be prepared in the Bridewell quarry.

One of the most trying things, as Dr. Hornsby knows, is looking after the mechanical end of it, the firemen, the engineers, and all the rest of it—the power, etc. We are going to get away from all of that. We are going to save about $60,000 by not building a power plant. The contracts have just been let for the city to build a big central plant for the public works, a big pumping plant in connection with which there will be a very handsome public swimming pool. The man who goes there is not an object of charity any more than the man just across who goes to the contagious disease hospital. All we will do at the hospital will be to open a valve and turn a switch. We will draw all our power, heat, vacuum service, and everything else of that kind from the central plant, run the elevators, have light, and so forth. The superintendent will have absolutely none of that on his hands.

We had no money to put into an expensive site. The water fund had the money. They could not get the site for the hospital because the law did not permit them to condemn for hospital purposes. We had to go to the Legislature and wait for months. We got a bill through to condemn for hospital purposes, and then we had to go to court and fight a law suit, get a verdict, and have the city buy the ground. The water fund bought it, and has leased it to the health department at a reasonable rent, and for a small sum we will have a very desirable site and save a great many thousands of dollars.

So, then, we have accessibility. We have exposure on all sides—on the north, the Bridewell grounds; on the east, the wide parkway and boulevard; on the west, fifteen or eighteen acres of city property, to have low buildings; on the south, the Drainage Canal. So that we have practically a permanent open exposure—something that it is almost impossible to obtain anywhere else in approximately the center of the population area of a big city.

We know, of course, that there is going to be very great pressure from the hospitals as to pay patients. There is on difficulty in the way. When you have a cubical hospital, it means that A gets just the same kind of accommodations as B; they are all alike, and they have all got to be where they are under observation.

The whole trend of the care of contagious diseases here and abroad is toward the cubical or small unit system—at any rate, in the initial stage of these diseases; later on, when the period of development has passed, these patients are passed on into other wards, differently constructed, where cases that are of the same general character can be kept together, but in the initial stages the whole trend of treatment today is toward the cubical system. The small unit cannot be operated successfully if you are going to have different classes of service in two cubicals right alongside of each other. You must have uniformity of method, or the thing will not work.

I sympathize entirely with the members of the profession in their quandary in regard to what they should do with contagious diseases. I don't wonder. We know what we have had. We have that little building, twenty years old, and a bad example of its type. But it is clean. We don't have many cross infections. We get some. Our figures are, I am sure, rather better than those of some of the larger hospitals. But it is a little place, not well designed or built, and expensive to run, and it is all wrong.

Of course I am assuming that I can do it. But, assuming that the Lord gives me the knowledge to do it, and I stay long enough, and we get something that looks good, both on the inside and outside, with a man at the head of it with salary enough to make it worth while for a first-class man to take charge, and an organization approximating the best of its kind in the world, it will not be long before the public will recognize the fact that there is a new order of things. Finally, a public hospital, maintained out of the funds of all for the benefit of all, is not the place to set up two standards of treatment. Those who want to pay and want expensive accommodations ought to have them, but not in a public hospital.

Hospital superintendents are every day asked to "look over" the plans for new hospitals or new additions, and to suggest any changes they think will improve them. This information is asked gratis, to supplement the lack of knowledge on the part of the architect, who is drawing a nice fee for his services. Every board of directors should, in making its arrangements with its architect, stipulate that the architect shall employ an expert hospital administrator as consultant, the person to be satisfactory to the board, and that an adequate fee—say, 1 percent of the total cost of the improvement—shall be paid by the architect to the consultant. Then the architect can set his charge accordingly, and the hospital will be built for business instead of as a monument to the architect, as is so often the case at the present time. However good an architect may be in his profession, he can have no first-hand knowledge of the details of the work to be done in the hospital, and the slightest mistake he makes in internal arrangement will cost money in administration. It is just as easy and costs no more to build so that all the energy expended shall count. People to do the work in a hospital cost money, and an endowment fund can be hard hit every year to pay for work that would have been needless with a little different arrangement of the interior of the building.

OCCUPATIONAL TREATMENT OF PATIENTS IN STATE HOSPITALS.

Gardner State Colony, Massachusetts, Leads Way in the Newer Care of Mentally Sick—Work and Recreation for All.

Occupation for the mentally unbalanced has been definitely shown to give the largest measure of hope for a cure. Hospitals for the mentally sick everywhere in the world are practicing various methods of occupational treatment, and it has been almost definitely agreed that

Fig. 1. Inmates laying foundation for building. These incurably insane men are capable of making correct measurements for building lines and walls. They built the colony home in the background.

the inmates of a great state hospital must be given different classes of work for different individual reasons. Some patients do not take kindly to indoor work and must be kept in the open air, and their freedom from symptoms is shown to definitely depend on their being kept busy. Some patients, on the other hand, incline to craft work, occupation for their fingers and hands, so that in the activities of a great institution almost every occupation is involved.

One of the foremost institutions in this country, and one that is perhaps better situated than most others for practicing occupational treatment, is the Gardner State Colony, at Gardner, Mass. This is a state hospital for the care of the supposedly incurable insane, where there are about 1,500 patients suffering from every known mental disturbance, every species of insanity.

Dr. LaMoure, in his development at Gardner, was unfortunately situated in some respects and quite fortunate in others. The colony consists of about 1,500 acres of land, mostly rocky, unproductive hills, but Dr. LaMoure has shown that these barren hills can be made most productive, and, although every acre has had to be retrieved from absolute barrenness, there are now hundreds of acres of productive farm lands.

In the arrangement of the Gardner Colony, homes have been built and divisional farms have been created at various sites on the hillsides, and the work has been beautifully laid out. For instance, one farm contains the dairy, which last year yielded 142,526 quarts of milk, worth more than $10,000, and this farm was increased last year by the birth of more than 100 calves.

On another colony is located the poultry farm, which last year produced more than 2,000 dozen eggs, worth $704.64, and over a thousand broilers and grown poultry for the tables at the various farms. The main farm is devoted to the growth of vegetables and fruit. Thousands of quarts of small fruit were raised, and from these rocky hills were produced thousands of barrels of potatoes, turnips, carrots, and cabbages.

When the present writer visited Dr. LaMoure at Gardner, some months ago, there were fifty or seventy-five hogs at one point, rooting about on a hillside in which there was not a blade of grass, not a vestige of vegetation. Great bowlders lay about everywhere, hugh rounded rocks, evidently the result of glacial action ages ago, and there were smaller bowlders clear down to fine sand. Notwithstanding there seemed no possibility of there being anything to eat for swine, the hogs seemed to be busy rooting, and Dr. LaMoure was asked whether they were just unintelligently optimistic hogs and were hoping against hope, or whether there was any actual precedent on which they might base their assumption that their energies would eventually be productive.

"Well," he said, "we have developed here what might be dignified by the name of a peculiar technic. Do you see that other piece of hillside beyond?" pointing to a beautifully green and productive ten acres, adjoining the desert spot. "Well, three years ago that was exactly the same sort of ground that this is, and because we had no

Fig. 2. The repair shop. These men can mend anything except a sick brain, and some of them do the finest kind of mechanical work.

Fig. 3. One of the sewing rooms. Some of the women do hand work, while others sew on machines. They make all the clothing worn in the institution for both men and women.

other place to turn them we put our herd of hogs there. For want of something better to do, they seemed to go to digging, and they found under the rocks and bowlders fungoids and bugs and worms; and they seemed to not only enjoy the digging, but seemed to be paid for the labor by what they found. The result was that in the course of a few weeks they had dug out some of these great bowlders that you see down in the hollow yonder, and all we did was to put them on stone boats after they had been entirely dug out of the surrounding sand, and haul them to the bottom of the hill. Then we put hundreds of our people to work picking up the smaller stones, and those, too, were hauled to the bottom of the hill. Then we turned the cattle in and fed them fodder there, and you see now we have a really fine piece of garden land; and so the colony's farms have been retrieved from waste space by the herd of swine."

More than $40,000 of value was produced on the Gardner Colony last year. But not only was the farm productive, as the activities of the institution cover vastly larger fields. The patients, many of them, are ingenious, and some of them are craftsmen. They have built nearly all of the colony houses at the institution. Some of them do beautiful architectural work. Some are designers, make all the drawings, and draw the specifications. The style of architecture they have developed is most artistic, and is quite as sane as that of some architects who are still at large. Others of these men work the materials, mix mortar and cement; they shape their own stone for building purposes and do their own woodwork; in fact, everything connected with new buildings is done by the patients.

But the institution's activities do not stop even there. There are various crafts practiced in a large building

Fig. 4. Women weaving and making rugs. The old lady in the center furnishes frequent surprises by the artistry of her figures.

Fig. 5. Women's work room. All the coarser fabrics used in the colony, such as mattress and pillow material and the workmen's overalls, are woven by the women. Dr. LaMoure grows his own wool for the finer fabrics.

erected for and devoted to the purpose. There is a carpenter shop and a furniture factory, in which all the furniture for the institution is made, such as chairs, tables, sofas, lounges, etc. There is a machine shop in which repairs and renewals are made for the great power plant that is used to supply light and power in all the colony buildings. Kitchen utensils are made in the machine shop, and there the machinery of all the crafts is made and repaired. There is a shoemaking department, in which all the shoes for the institution are made and repaired. There is a mattress and pillowmaking establishment, in which not only the mattresses and pillows used in the institution are made, but many for other of the institutions in the state. The ticking for mattresses is woven on the premises in the weaving machines, worked by both men and women, and in these weaving machines are also made all the coarser fabrics used on the place. The institution has its own herd of sheep on one of the farms, and shears its own wool; cards, weaves, and spins, and makes up this wool into cloth for the patients. Beautiful homemade carpets and rugs are made in one of the establishments, and a great amount of basket weaving is done. In this work some of the most violent patients take part, and are given occupational recreation that does them a vast amount of good.

The farmers all about the country are, as a rule, shorthanded, and patients are paroled out to them, and are allowed to work and have the money that they make when working for the farmers. Some of these men and women are excellent farm hands.

Gardner is supposed to be a home and a refuge for the hopelessly insane, but nearly all the people are happy,

Fig. 6. Building a colony home. The patients prepare building stone, make their own mortar, do all the carpentry and woodwork, make their own measurements, and do every particle of the work. Some of them are designers and draftsmen, and they have, once in awhile, designed some as crazy architecture as architects who are still at large.

and they are made to feel that they are welcome in the institution and that their keep is not a tax on the public, but that they earn their way. Therefore they are made to be self-reliant and independent, after a fashion.

But it is not all work at Gardner. The patients have a good time. In the outdoor season they play ball, tennis, golf, and occupy themselves in hundreds of ways in the

Fig. 7. Mattressmakers. These men are also excellent shoemakers, and are "bosses" in these two departments. The younger man is one of the vicious patients.

open air. In the winter evenings they have reading, recitations, entertainments of all sorts. They have pianos everywhere, and many of the patients play well on that or some other instrument. They have their orchestra and have musicals frequently. They have an excellent library, bowling and billiard rooms, and on the whole it is not such a terrible thing to be insane if one can be sure of the happy, even passage of one's life at a place like Gardner.

VAGINITIS IN CHILDREN.

New York Health Department Will Make Attempt to Find a Way to Handle This Infection.

Health Commissioner Goldwater has had presented to him at the beginning of his service as health commissioner of New York City one of the most perplexing problems before the health workers at the present time. The superintendent of the city schools of New York filed charges sometime since that forty-eight children in the public schools had been inoculated with some "loathsome disease" in the public hospitals of the city. It was said that some of these children acquired syphilis and that some of them acquired gonorrheal vaginitis.

An inquiry was made at once, and Dr. Goldwater has replied to the commissioner of education, making a preliminary report. As might have been expected, the charges were not correct. Of the forty families visited by the inspectors, fifteen were not found at the addresses given, but careful examinations were made in twenty-five families, and among these not a single case of syphilis or of suspected syphilis was found. Only six had been treated at any time in the municipal hospitals, twenty-four had never been inmates of any hospital, and two were found who had been inmates of municipal hospitals and who had, at the time of the inspection, gonorrheal vaginitis.

The health department is going to prosecute vigorously an inquiry as to the best way of handling these gonorrheal vaginitis cases. Dr. Goldwater, in his report, states the situation in regard to vaginitis in female children most graphically. He says:

"That a form of vaginitis, which is bacteriologically indistinguishable from gonorrheal vaginitis, is a common condition among children in this city and elsewhere, is well known to clinicians. It is thought by many clinicians that this form of vaginitis which occurs in children is clinically distinct from the gonorrhea of adults, and yet, as a matter of precaution, the treatment of the vaginitis of children, as carried on in carefully conducted institutions, is surrounded by all the precautions which are prescribed for the handling of infectious diseases.

"If a serious attempt were made to exclude from school all children who suffer from vaginitis, it would be necessary (a) to establish the machinery by which a complete physical examination of all female school children could be made; (b) to convince the public of the necessity of the proposed measure; (c) to establish the legal and moral right of the city authorities to require such an examination. Furthermore, inasmuch as the condition in question is one which, notwithstanding the most intensive treatment, often persists for months and even for years, it would be necessary to inaugurate a method whereby the education of excluded children could be continued. The only logical method would be to send private teachers into the homes of infected children.

"The questions here involved are among the most difficult and puzzling with which public health administrators have to deal. I am not aware that the problem has been solved anywhere, and I can only promise, on behalf of this department, unremitting attention to it, in the hope that a working program may ultimately be formulated."

NEW RULE FOR ISOLATION CASES.

New York Health Department Refuses Transfer of Children from Private Hospital to City Institution.

The New York City Health Department has established a new rule about the transfer of patients suffering from the communicable diseases from private hospitals to the city isolation hospital. Health Commissioner Goldwater's letter in a recent instance, in which the department was asked to move a child from a large country hospital outside the city to the Willard Parker Hospital, states the case clearly as follows:

"My Dear Sir: I regret that I am unable to comply with your request to have cases of contagious diseases removed from ——— Hospital to the Willard Parker Hospital. I am informed that the department has made such transfers in the past, but I cannot believe that the matter ever received very serious consideration. As an act of courtesy to your institution, compliance with your request is doubtless indicated; as a matter of justice to the children concerned, it is clearly contraindicated.

"The sanitary code prescribes that all hospitals and homes in this city shall have suitable facilities for the isolation of contagious cases. The principle is one which applies with equal force, whether in the city or country, and this department will now use its power and influence to hinder rather than facilitate the transfer of contagious cases whenever and wherever such transfer involves a long journey, with its attendant risks to the patient.

"I feel quite sure that on careful consideration you will assent to the proposition that all institutions which care for considerable numbers of children should have suitable facilities for isolation.

"S. S. Goldwater, Commissioner."

A report recently issued by Dr. Theodore Sachs, medical director of the Edward Sanatorium at Naperville, Ill., gives the information that during the seven years' existence of this sanatorium 949 patients have been admitted and 873 discharged. Of those discharged, 340 are now able to work at full capacity, while many others are almost, if not entirely, self-supporting. One hundred and forty-eight occupations were represented by the patients enrolled during the seven years. Indoor workers comprised 61 percent. On admission 55 percent of the cases were in the incipient stage, 35.3 were moderately advanced, and 9.7 were far advanced. According to the report the institution is largely self-supporting.

NEW HOME FOR BOSTON CHILDREN'S HOSPITAL.

Revered Old Institution Begins New Stage of Development and Usefulness in Up-to-Date New Buildings.

The Children's Hospital of Boston, after a distinguished career of forty-five years in modest quarters of old-style architecture, has now moved into splendid new buildings on Longwood avenue, in the Fenway, Boston, adjoining the Harvard Medical School, with which its association has now been made very much more intimate.

The hospital was recently opened under most auspicious conditions, and its supporters, made up of all Boston, anticipate for it even far greater influence in the future than it has had in the past. The Boston *Medical and Surgical Journal*, which has been so intimately a part of the medical and hospital progress of Boston, devotes almost its whole issue of April 2 to recapitulation of the splendid work of the Children's Hospital in all its departments, to which Mr. Chas. A. Coolidge, the architect, has contributed a masterful summary of the architectural features of the new buildings. Mr. Coolidge describes the new hospital partly as follows:

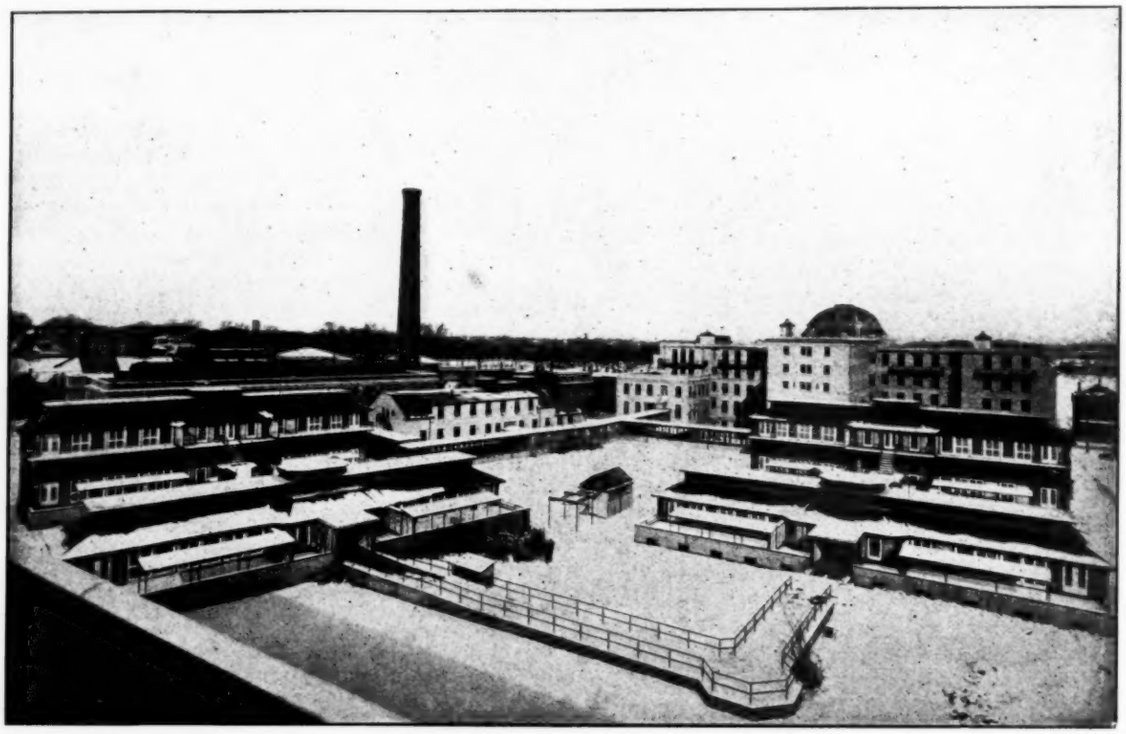


Fig. 1. Boston Children's Hospital—General view.

The Children's Hospital, as an architectural problem, was quite an unusual one. There were three separate gifts which required to be individualized, and yet it was evident, for the sake of convenience of administration and economy, that three separate buildings should not be built. After several studies it was finally decided to build the present arrangement, which consists of an administration building, which occupies the center of the main building, from the money left in memory of Mrs. Robert Hooper; the dispensary building, which is the portion of the main building to the west of the administration building, from the gift of Mr. F. W. Hunnewell; and the nurses' home, the portion of the main building to the east of the administration building, from the money left by Anne White Vose for a nurses' home. These different portions are separated by fire walls, and are practically separate in their uses as well as in construction. These main buildings are fireproof throughout, and the exteriors are built of a concrete conglomerate which consists of crushed trap rock, sand, and Portland cement, without any coloring matter, which has a tendency to weaken the concrete. No attempt has been made to make it an artificial stone, but simply to have the most durable material, and to make the mass a uniform color, which gives a more solid appearance to the structure than brick with stone trimmings, especially as there are a great many windows and quite large ones.

In the administration building are the offices, reception rooms, examining rooms, kitchen and serving rooms, storage rooms, superintendent's suite, x-ray department, house doctor's quarters, ladies' aid room, and servants' quarters.

In the dispensary building are the receiving room, isolation suite for immediate isolation of possibly contagious cases, separate waiting rooms, examining rooms, treatment rooms, etc., for all departments; operating rooms and recovery rooms for minor surgical cases; plaster rooms, gymnasium, etc.

The nurses' home is built for seventy nurses, with five rooms for the sisters who have charge of the hospital.

At the request of the medical staff the top floor of the dispensary has a ward and arrangements for dispensary cases, so that when necessary a dispensary patient can be kept there and not taken into the regular hospital. This ward and rooms are isolated. On the top floor are also a limited number of rooms for private patients. Except the above, all the patients are in ward buildings on the pavilion plan, entirely outside the main building on Longwood avenue, and connected with it by a circulating corridor which has three levels—the lower one for pipes and heat; the second, which is inclosed and half above grade, for food, etc.; and the upper one, which is on the level of the main floor, for general circulation. The latter is screened with glass sash where necessary, and has a flat roof, which can be used as an emergency fire escape.

These wards are not of fireproof construction, as the lower floors are practically on the ground level and the upper floors have large balconies on three sides connected with the roofs of the corridors. It was the intention to keep the shells of these ward buildings as inexpensive as possible, so that in the future, as the treatment of hospital wards changes, the trustees would not be hampered with too expensive permanent wards. This does not mean that the arrangements for the comfort of the patients, or the plumbing or sanitary arrangements, are not the best,

Fig. 2. Boston Children's Hospital—Main building.

but that the wards are of rough cast instead of stone or brick. A plan and section of the double wards is shown, so that it is not necessary to go into the details, but merely to call attention to certain particulars.

There are at present two two-story double wards and two one-story double wards, and locations left for two additional double wards in the future. By double wards is meant a ward on each side of the corridor on the same level. These single wards contain 10 beds each, with an observation room separated, making 22 beds in a single-story building and 44 in a two-story building.

In planning for the future increase in the number of the beds, it is the intention to place another story on the one-story wards, making them two-story wards, as shown in the accompanying section.

The method of ventilation in the wards is by a monitor top in the ceiling, as well as the windows on the sides. Those toward the south are large sliding doors, with metal plates attached to the doors fitting tight into a deep slot in the bottom and sides. These doors make practically an open ward in summer, and allow the beds to be easily pushed out on to the piazza to the south, which is fifteen

Fig. 3. Boston Children's Hospital—Ward building.

feet wide. This piazza treatment, with a narrow roof on the outside away from the building, is new, and has the advantage of allowing the sunlight to enter the ward and yet protecting the patient from the direct rays of the sun and the rain. In placing the second story ward above the first story ward, the monitor form is retained in both upper and lower wards; there is no damage done to the lower ward as far as ventilation or light is concerned, as the outer wall in front of the first-story monitor is merely open lattice, so that the air has perfectly free access to the windows in the monitor top; also the balconies on the second story, which are wide, are so far above the windows in the lower ward as not to interfere with the sunlight. Each separate ward can be entered from out of doors and access cut off entirely from the main corridor, and, as each ward is complete in itself, if desired, there can be perfect isolation.

The Children's Hospital began its auspicious career in 1868, and has numbered among its medical staff members and trustees some of the great men of New England, and from its honored walls have come some great advances in the science of medicine, not only in hospital administration, not only in the diseases of children, but in surgery and medicine, especially orthopedic surgery.

Some of the splendid work of the hospital during its years of existence was told in this April 2 number of the Boston *Medical and Surgical Journal*. It is a most inspiring story.

SERVICE AND PAY OF HOSPITAL HELP.

Inquiry Committee Finds That Rate of Pay Is Not Parallel With Length of Service.

The investigating committee of the Board of Estimate and Apportionment in New York has recently inquired into the problem of hospital employees. The report is embodied in a pamphlet just issued.

There were some most interesting developments that are considered in the committee's conclusions, indicating that Bellevue and the Allied Hospitals are having the same difficulties in regard to the cheaper help that other hospitals are having, have always had, and always will have. The committee's report is summarized under three heads, and these summaries are well worth reading with careful thought:

A. SUMMARY OF FINDINGS.

1. A large proportion of hospital helpers are so-called "rounders" and "periodic drunks." Many of them, however, are capable and render good service.
2. The large number of changes represent, in the main, the same personnel, shifting from institution to institution.
3. Raising of the yearly wage from lower to higher grades during the last four years has not increased the average length of stay.
4. The eight lowest grades, from $60 to $168, show about the same percentage of discharges in each of the four years examined, although the average wage has been increased within these grades.
5. The percentage of discharges in grades $180 to $264 in the department of Bellevue is as large as the percentage of discharges in the grades $60 to $168 in the department of charities. The average length of stay in the corresponding grades is less in these upper grades in Bellevue than in the lower grades in the department of public charities.
6. The grades of hospital helpers and titled positions overlap. The highest grade of hospital helper is $720; below this highest grade fall such titled positions as seamstress, cook, barber, tailor, etc.

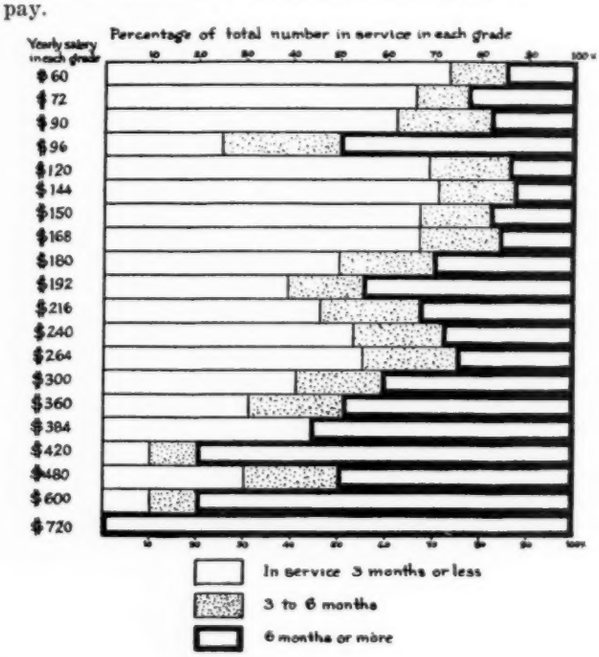
B. CONCLUSIONS.

1. The city has assumed the support of the indigents; and, in the absence of other institutions wherein the periodic and semi-responsible drunks can live and work, they can to the best advantage, both to themselves and to the city, be supported as workers in the city's hospitals.
2. This class renders good service when sober, and is content to serve for a small wage.
3. When the hospital helper leaves the service because of drunkenness, it is easy to fill his place, usually with an experienced helper, during about eight months of the year. In the summer months there is some scarcity of help, which, however, is not a serious handicap, owing to the fact that there are fewer admissions during these months.
4. The lower grades, from $60 to $168 per year, act as a buffer to the higher grades and when the lower grades are abolished the same character of helpers is employed in the next higher grades, without decreasing the percentage of discharges or increasing the constancy of service.
5. Since raising wages in the lower grades has not increased the length of stay in the institutions, it is a waste of money to increase the wages of any large proportion of the helpers serving in the lower grades, unless such increase abolishes all low grades.
6. It is the opinion of some of the officials in the hospitals that good living and sleeping quarters and good food contribute largely toward contentment of the workers, and that such conditions tend to increase the constancy of service. These opinions seem to be borne out by the fact that the average length of stay in Kings County Hospital is less than in City Hospital or Metropolitan Hospital, although the everage wage is larger in Kings County Hospital than in these other hospitals, which have better accommodations for the low-paid helpers.

C. RECOMMENDATIONS.

1. Let all employees receiving $480 and below be called hospital helpers. Let all receiving more than this amount have titled positions.
2. Retain grades $120, $180, and $240 until such time as the city shall have accommodation in its hospital and Industrial Colony, to be established, for the class of hospital helpers who are subject to periodical drunkenness, and also until such time as the city can afford to pay a minimum wage of $240 for women and $300 for men.
3. Of the existing twenty-one grades abolish all but the following: $120, $180, $240, $300, $360, $420, $480.
4. The persons to be employed in these grades and the conditions of promotion are set forth in an accompanying salary and wage schedule.
5. Provide better living and sleeping quarters for hospital helpers.

As a finality the committee has prepared a most interesting chart, herewith presented, showing the average length of service for employees in the various grades of pay.



The $100,000 fund recently raised for Ellis Hospital, Schenectady, N. Y., by public subscription will be used to provide an annex, with accommodations for a children's ward, an additional general ward, nurses' quarters, etc.

CURRENT HOSPITAL LITERATURE

Albert Allemann, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General U. S. Army.

Frank B. Martin, Domestic Literature.
Army Medical Museum and Library, Office of the Surgeon-General U. S. Army.

The New Hospital at Dreux (Le nouvel hopital de Dreux). Dr. Leviste. Paris médical, 1914, XIV, No. 6, supplement.

This new hospital was opened by Mr. Poincaré, president of France, October 26, 1913. It replaces an old hospital that was erected in the seventeenth century. The new hospital is arranged on the pavilion system. It is located on a high elevation, and is provided with all modern improvements.

Hospitals with Their Own Gas-Producing Apparatus (Eigene Gaserzeugung in Heilanstalten). H. J. Klinger. Heilanstalt, Leipsic, 1914, IX, No. 4.

Hospitals which, on account of their location, cannot obtain their gas supply from a general source, may now own their own gas plant at a very small expense. Such an apparatus, called the "Benoid Gaserzeuger," has lately been invented. It consists of a generator, a blower, and a gasholder, with an automatic starting and stopping device. The expenses of Benoid gas amount to 12 pfennig (three cents) per cubic meter (1,000 liters).

The Care of Tuberculosis Patients. Christian R. Holmes, M. D. Lancet-Clinic, April 4, 1914.

Dr. Holmes was speaking on the occasion of "breaking ground" for the tuberculosis hospital of Cincinnati. He reviewed the efforts of society to stamp out the "white plague," ending with the recent practice of giving patients some sort of occupation according to their strength and former habits of life. He said it was proposed to follow the same plan in the new hospital, though there are only 60 acres of ground for 400 patients, whereas some authorities thought 150 acres would occupy 100 patients.

The Hospital for Heredo-Syphilitic Children in Berlin-Friedrichshagen (Das Pflegeheim für erblich-kranke Kinder in Berlin-Friedrichshagen). E. Köberlin. Ztschr. f. Krankenpflege, Berlin, 1913, XXXV, No. 7.

Experience has shown that syphilitic children may be completely cured by careful and proper treatment. This fact induced Dr. Welander, the philanthropic physician of Stockholm, to establish at his own expense a hospital for syphilitic children in that city. The results surpassed all expectations. Not a single one of the children who were treated at the hospital during the last twelve years died from the disease. Soon afterward the city of Copenhagen established a similar institution, and lately such a hospital for syphilitic children was opened in Berlin. It is the only one of its kind in Germany, and was founded by philanthropic citizens of Berlin. It contains at present 28 children, one-third of whom show already a negative Wassermann reaction and the others are improving rapidly. The children are almost exclusively treated by Welander's method. The children remain at the hospital until they are 5 years old. Nurslings are received together with their mothers, the latter being treated at the same time. The institution stands under the direction of the eminent dermatologist, Dr. O. Rosenthal.

A Rural Experiment in Medical Cooperation. Walter H. Brown, M. D. Survey, New York, 1914, XXXI, March 28.

Grand View Hospital has been recently opened at Sellersville, Bucks county, Pa., with a view of solving the problem of rural health through organized rural physicians, the promoters of the enterprise being the North Pennsylvania Clinical Society, a nonsectarian medical organization of country physicians. Their field of labor is to extend over an area of some two hundred square miles, containing eight towns of a population ranging from 500 to 4,000 citizens, with thickly settled agricultural districts.

Mild-Steam Heating for Hospitals (Milddampfheizung für Heilanstalten). P. Georgi. Heilanstalt, Leipsic, 1914, IX, No. 4.

From a modern point of view the central heating plant is unquestionably the best system. There are two forms—warm-water heating and low-pressure steam heating. Both systems have their advantages and disadvantages. As the great heat of the low-pressure steam has an unfavorable effect on the air in the rooms, the author proposes a modification. He does not pass pure steam through the radiators, but mixes it with air. He calls this form of low-pressure steam heat "mild-steam heating" (Milddampfheizung) or injection heating (Injektionsheizung).

German Hospital Development—An Expert Continental Review. Hospital, London, 1914, LV, March 14.

Attention is directed to "Ergebnisse und Fortschritte des Krankenhauswesens" (Incidents and Progress in the Hospital World), the second volume of Prof. Dietrich's monumental series of books on hospitals, published by the well-known firm of Gustav Fischer, Jena. This second volume is edited by Prof. Grober, chief of the medical clinic of Jena, and proves an interesting, well-printed book of 166 illustrations. The series gives yearly records of hospital development and of early reference by hospital workers and architects. On the continent, and especially in Germany, progress in hospital work is so rapid that it is not surprising that sometimes there is an innovation which is really a regrettable retrograde movement, and even in wide ranging essentials is such a retrograde movement to be witnessed.

The Care of the Baby. Supplement No. 10 to the Public Health Service Reports.

The bulletin presents conclusions from a number of sources, and as the results of inquiries by a number of committees, on preventive medicine for infants. Some of the topics treated, and on which excellent advice is given, are nursing, weaning, mixed feeding, bottle feeding, milk formulas, care of the home—in which the baby is the most vulnerable factor—the baby's room, clothing, clothes lists, sleep, the bath, contagious diseases, eye diseases, blindness, vaccination, birth registration, and parental care. The bulletin is valuable, and can be secured by application to the Public Health Service, Washington, D. C.

Researches on the Disinfection of Woolen Covers with Formaldehyd (Untersuchungen über Wolldecken-Desinfektion mit Formaldehyd). A. Elgström and A. Erlandsen. Ztschr. f. Hygiene, Leipsic, 1913, LXXVI, No. 1.

The relative humidity of the air in the formalin chamber must be kept at at least 80-90 percent during the whole disinfection period. The disinfection must be continued during at least nine hours. For new woolen covers at least 20-25 c. c. of formaldehyd per cubic meter are necessary; for old covers, at least 35-37 c. c. To fill the severest requirements, the amount of formaldehyd should be increased to 45 c. c. per cubic meter and the time of exposure be lengthened to 22 hours.

A Contribution to the Question of the Size of Hospitals for the Insane (Ein Beitrag zur Frage der Grösse der Heil- und Pflegeanstalten für Geisteskranke). J. Starlinger. Ztschr. f. Krankenpflege, Leipsic, 1914, X, No. 10.

The author takes a stand against those writers who claim that small hospitals are the most expensive and that large institutions of 1,000 or more beds are the cheapest. He mentions as an example the new state hospital of Görlitz, which was lately opened. This hospital is built on the pavilion plan and has room for 400 patients. It comprises an area of 160,000 square meters. The costs for the grounds and the expenses for the erection of the buildings amount to 1,650,000 crowns (about $340,000), or a little over $800 per bed.

The State Hospital for Nervous and Mental Diseases at Lübeck-Strecknitz (Staatliche Heilanstalt für Nervöse und Geisteskranke Lübeck-Strecknitz). Dr. Wattenberg. Psychiat. neurol. Wchnschr., Halle a. S., 1913-14, XV, No. 47.

This new hospital was erected by the commonwealth of Lubeck. In selecting a location, the experts appointed by the city demanded that the following requirements be fulfilled: the hospital must be as near the city as possible; it must be isolated and have beautiful surroundings; there must be no industrial establishment in the neighborhood; the surroundings must be healthful; the place must be protected against cold winds; the soil must be suitable for cultivation; the hospital must be on a macadamized road; there must be villages in the neighborhood, that the gradual introduction of family care for the patients may be made possible. As desirable points were mentioned location near a stream and in the neighborhood of woods and meadows. The location at Strecknitz, 3.6 kilometers from Lubeck, was selected as the most favorable. The hospital is built on the pavilion plan. It has at present room for 319 patients, but the hospital can at once be enlarged to receive 500 patients.

An Address on Medico-Social Problems from an Insurance Point of View. Sir Thomas Oliver. London Lancet, April 4, 1914.

The writer discusses cancer and "athleticism" as two dominant social factors, and their influence on insurance and on the general well-being of society. Cancer is on the increase, insists Sir Oliver, and its effects are to raise insurance rates by reason of its increasing mortality. He discusses its causes, at least the social causes, such as environment, locality, heredity; and extraneous causes, such as traumatism. On the question of athletics, Sir Oliver sounds a note of warning. He thinks it highly improper for young men who must earn their living as clerks and in the sedentary occupations to engage in the more strenuous exercises, such as marathon and boat races. "The tendency of the age," he says, "is to overestimate athletic exercises. It has yet to be shown that from those public schools which pride themselves in games and physical culture rather than in intellectual training, the longevity of their pupils is greater, and that when the work of life is summed up they have taken as good a place as those who were pupils in colleges renowned more for a happier mean in mental training and physical exercise."

The Question of Discipline in Hospitals. Charlotte A. Aikens, Trained Nurse, New York, 1914, LII, 233.

Attention is invited to the disregard of known regulations on the part of the head nurse, the outcome of neglecting to teach proper respect for authority. Instead of being an example to pupils in the observance of rules, their influence is often to the contrary. The writer claims that with many hospital graduates who choose institutional work the desire to have control, regardless of its effect on the institution, is a common characteristic. It should be the superintendent's duty, whether he realizes it or not, to teach respect for authority, without which there cannot be cooperation and harmony in hospital administration.

The London Temperance Hospital—Account of a Formal Reception for the Annual Meeting. Brit. Jour. of Nursing, April 4, 1914.

"The Children's ward, which owes its beauty to Lady Collins, once a sister in the hospital," says the report, "is one of the most charming to be found anywhere. The walls are tiled, and illustrations of nursery rhymes, carried out in tiles also, vignetted in form, an improvement on the ordinary panels, are delightful. The green curtains of the cots, continuing a note of color in the walls, look charming against the cream background. The small tiled aseptic ward for one patient came in for much admiration, and the men's ward adjoining is tiled also, mauve being the predominant note. In the theater, where the very best is made of the present space, although a new theater is one of the things for which the hospital is awaiting a fairy godmother, the operating table is heated by electricity, the convenience of which will be appreciated by those who were trained in the days when surgeons were beginning to realize how much shock was prevented by warmth of the operating table, and who expected a water bed filled and *in situ* for all cases of any magnitude."

The Hospitals of Germany (Gli ospedali in Germania). Rivista ospedaliera, Roma, 1914, V, No. 1.

The public hospitals in Germany are maintained and managed at the expense of the cities, communities, or districts. The state intervenes in various ways. In Prussia the state erects and maintains only the clinical hospitals of the universities, and does not assist the local authorities in the maintenance of hospitals. In Württemberg the state subsidizes the civic administrations. The great increase of the number of hospitals in Germany is due to the fact that the urban population has increased enormously in comparison with the country population. From 1870 to the present time the number of hospitals in Prussia increased from 888 to 2,314, and the number of beds increased from 37,039 to 160,437, while the number of patients rose from 211,060 to 1,204,641. In municipal hospitals the supervision is usually intrusted to a board composed of officials and citizens. In many hospitals the medical director has also charge of the administrative work, while in others he has an administrative officer at his side, but the German physicians favor a one-man administration. The medical association, which defends the interests of German physicians, has always demanded that the director be given full power over the administrative work, and that the manager be only an employee subordinated to the medical director.

Educational Standards for Nurses—State Registration and School Inspection. Sara E. Parsons, R. N. Boston Med. and Surg. Jour., April 9, 1914.

Miss Parsons, who is superintendent of the training school of the Massachusetts General Hospital, discusses the new rules under which nurses may be enrolled in the American Red Cross, and bespeaks the adoption of at least as high standards by state registration boards. The War Relief Board of the Red Cross, under which the new rules were prepared, requires a full two-year course, in which male patients must have been cared for; training in hospitals for the insane is not sufficient unless supplemented by general training; nurses must be at least 25 years of age. The author urges inspection, by qualified nurses, of hospitals that have training schools, and tells why such nurses are competent to make such inspection. She arraigns boards of trustees that commercialize their training schools. She refers at some length to the work of the new Household Service Bureau of Boston, which, under the auspices of the Women's Municipal League, is attempting to care for sick persons of moderate means, and she regards this work as the most important public health movement now before the people.

A Practical Small Hospital (Ein zweckmässiges kleines Krankenhaus). M. Berg. Ztschr. f. Krankenpflege, Berlin, 1914, XXXVI, No. 2.

The hospital of Neudeck, Upper Silesia, may serve as a type of a small country hospital. It contains 35 beds, and fulfills all the requirements of modern hygiene and practical arrangement of the interior. The building consists of a basement, two stories, and an attic. The entrance leads to a fine hall, which can be heated and serves as a waiting room. A corridor leads from this hall to the various apartments—namely, the consultation room, the laboratory, the operation room, a room for the nurses, and at one end of the building two isolation rooms for five or six patients with infectious diseases. This isolation division has a separate entrance. Broad stairs lead from the hall to the second story. One side of this story forms the division for men, the other for women. There is a large veranda, which during bad weather may be closed in by movable windows. The basement contains the kitchen, a dining room for nurses, a disinfection room, the central heating plant, and a wash collecting room, which is connected with all stories by a vertical shaft. The building costs were 100,000 marks ($25,000). The running expenses amount to 20,000 marks ($5,000) per year, which means an expense of 6 marks ($1.50) per day for each patient.

A committee representing the Illinois State Board of Administration, which has charge of the state's insane and epileptic institutions, after visiting a number of such institutions in the East with the view of getting ideas for the $3,000,000 hospital for the insane to be erected at Alton and the epileptic colony to be established at Dixon, has decided to recommend a combination of the congregational and cottage plans for the former and the cottage plan for the latter. The state has already purchased sites, a thousand acres for each, and the Board of Administration hopes to build the most modern and scientific institutions of the kind in the country. With the large tracts of land it is planned to take advantage of the remedial benefits of outdoor occupations for patients and also to aid in making the institutions self-supporting. The administrators assert that this plan has been found very effective in Illinois.

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The Hospitals of Germany (Gli ospedali in Germania). Rivista ospedaliera, Roma, 1914, V, No. 1.

A 27-bed private sanitarium has been opened recently at Vincennes, Ind., by Dr. Eugene Bowers and Dr. E. R. Leschner, formerly of Mt. Carmel. In addition to the regular medical and surgical treatment, various kinds of medical baths will be given. The equipment is said to be modern and adequate in every way. A nurses' training school will be maintained.

According to the will of the late Kenneth S. Walbank, of Chicago, three charitable institutions of that city—the Chicago Charity Hospital, the Home for the Friendless, and the Chicago Home for Incurables—will at the death of Walbank's widow share equally in a bequest of $225,000.

FOREIGN CORRESPONDENCE

PARIS LETTER.

The New Hospital La Pitié—A Brief Description of This Modern Hospital—Personnel of the Medical Staff.

Paris, April 15, 1914.

The newest and most modern of the Paris hospitals is the new Pitié. One should not fail to visit this institution, especially after seeing the German institutions, as nothing shows better than this the contrast between the municipal institutions of Germany and of France.

This hospital was sanctioned by the law of April 7, 1903, and is the first of the *grands travaux hospitaliers*, on which work some 45,000,000 francs will be expended. The new Pitié itself costs approximately 10,000,000 francs ($2,000,000). Instead of replacing the buildings on the old site, a portion of the extensive grounds of the Salpêtrière was selected for its erection. Work was begun on this hospital February 1, 1905, but on account of numerous interruptions the establishment was not opened until June, 1911.

The arrangement of the buildings follows the general order now adopted for our best-planned hospitals. The entrance on the Boulevard de l'Hopital is simple, constructed in brick and stone. To the left of the entrance are the out-patient departments for surgery, nose and throat diseases, and dentistry; to the right are the departments of medicine, eye diseases, and x-ray. As we pass the gate we come to a spacious yard, and, walking down the broad main avenue, we reach first on the left the administration building; immediately beyond this is the pavilion for the interns, the baths, the pharmacy, and the laundry. At this point the central avenue swings to the right and we encounter a round building, which is the amphitheater for the students, with a seating capacity for two hundred. Beyond this the hospital really begins; to the left is the medical group of buildings, consisting of

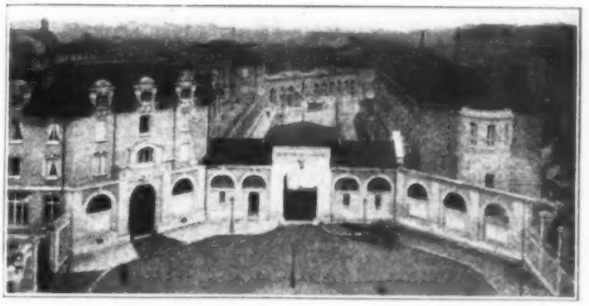


Fig. 2. La Pitié Hospital—Main entrance.

two groups of buildings of three separate services in each. On the opposite side of the avenue is the surgical group similarly constructed, with the necessary modifications for modern operating. Beyond these buildings is the obstetric group, which can be reached directly by way of the Rue Jenner. Other buildings for the personnel and the morgue are at the extreme end of the grounds on the Rue Bruant. The morgue is used in common with that of the Salpêtrière. The kitchens are placed behind the surgical group. Heating is by steam from a central plant, which furnishes service for baths, kitchen, disinfection, steriliza-

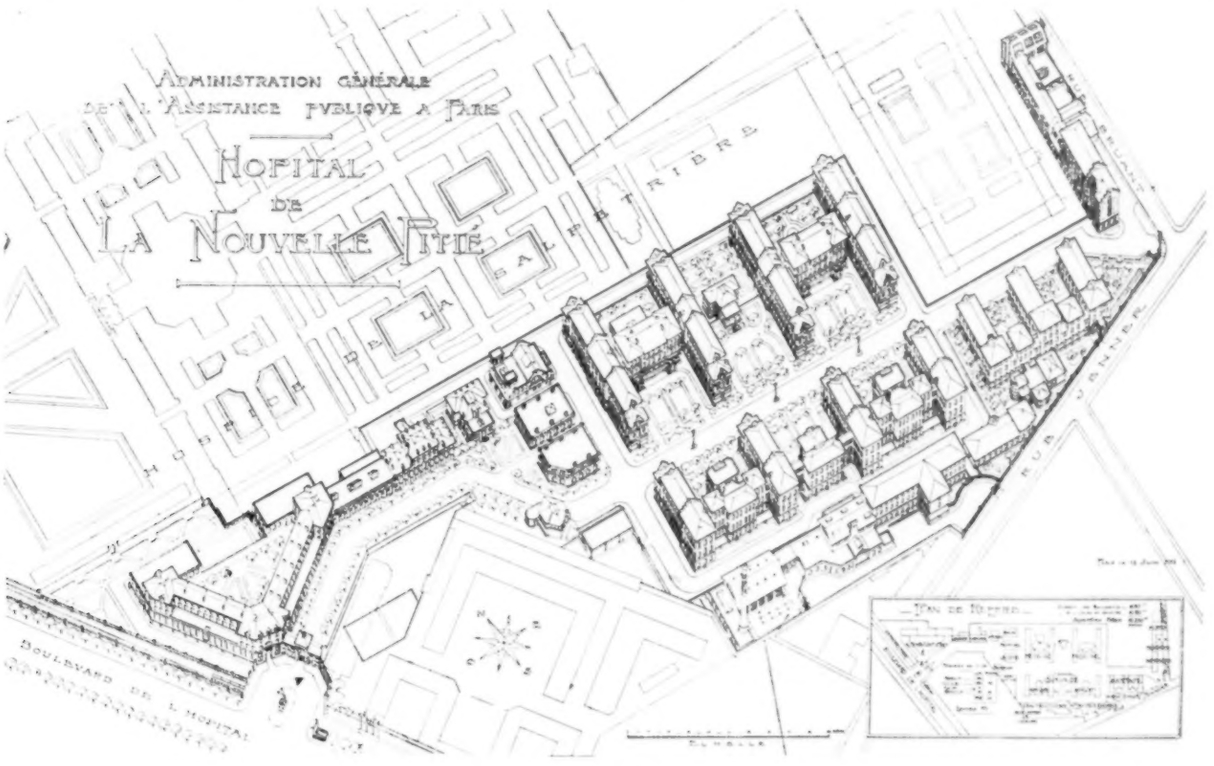


Fig. 1. La Pitié Hospital—General plan.

tion, hot water, and all general purposes. Electric light is furnished by a current from the Salpêtrière. Interior transportation is effected by wagonettes, specially constructed for various special purposes, through the different connecting galleries which are under all the buildings. The morgue has a cold storage space for thirty-two bodies, and there are fourteen tables in the autopsy room.

The opinion of the direction concerning the hospital I give as it stands untranslated: "En définitive, malgré les quelques critiques que l'on a pu faire concernant certains aménagements, ce nouvel établissement, qui est l'aboutissement d'un long effort, ne le cède en rien aux hopitaux

Fig. 3. La Pitié Hospital—Consultations.

analogues des grandes capitales européennes, at on peut dire que Paris possède aujour d'hui un modèle de construction hospitalière, ou viennet s'inspirer d'ores at déja les municipalités de province et de l'étranger."

This hospital is particularly fortunate in medical staff. First of all, as chief of the first medical service, there is Jules Babinski; the other chiefs of service in medicine are Lion, Claisse, Thiroloix, Enriquez, and Josué. The surgical chiefs are Walther, Arrou, and Thiéry. Potocki is chief accoucheur.

The intensive work and the high grade scientific work that is done at this hospital can be best estimated from the reports of the laboratories. Especially is this true when we consider the small budget allowed for this work by the

Fig. 4. La Pitié Hospital—A corner of the kitchen.

Counseil Municipal; a sum that would be considered a joke in the better municipal hospitals in our country. Babinski has the largest appropriation for this purpose—namely, $400. I quote from his laboratory report of 1912 a few of the things he has done with this sum: 1,600 Wassermann reactions; the regular numerous routine bacteriological, cytological, and chemical examinations pertaining to the medical service, including necessary animal inoculations for diagnostic purposes; also anatomical and physiological research work, which includes twenty published papers by ten different workers.

Dr. Josué, who received the munificent sum of 500 francs ($100) for his laboratory, did not only all the necessary laboratory examinations for his medical service, but carried on extensive research work, particularly on diseases of the heart, which includes ten published papers.

R. L. Thompson, M. D.,
Professor of Pathology St. Louis University School of Medicine.

AS OTHERS SEE US.

Eminent French Surgeon Finds Our "Passion for Science" is Placing Us in the Leadership.

Prof. Tuffier, the noted French surgeon, who spent several months in this country in attendance on the Clinical Conference of Surgeons, has been talking to the *London Times* about his experiences over here. Prof. Tuffier is perhaps better qualified to discuss hospital conditions in this country than any other Frenchman, because he has a private hospital of his own in Paris that is as far superior to the average French hospital as our best is superior to our worst.

"Autonomous hospitals," as he called the independent, privately operated institutions of this country, are far preferable to Government-owned institutions of Europe, he thought, because they give independent opportunity for initiative, and permitted individual freedom of action in research and betterment; boards and benefactors could supply or find money for these things in a privately supported institution, whereas Government moneys had to be used for maintaining all state institutions on one, fixed, low level, and no one could be permitted to exploit individual ideas, no matter how promising these might be.

Prof. Tuffier's idea of the American hospital administrator is unique:

"The hospital administrator in the United States is not a functionary. It is a position that is much sought after, and, next to having had an ancestor on the Mayflower or being a director of Harvard University, it is the greatest source of pride. Such men become experts, whose advice in arranging hospitals is most valuable."

He was impressed with our system of apprenticeship in medicine:

"A great advantage to American surgeons is that their assistants remain with them a long time. Dr. Cushing was seven years with Dr. Halstead, and finally spent over ten years at Johns Hopkins University. The brothers Mayo at Rochester, Minn., have assistants who are growing gray, while the French change theirs every four or six months."

We, over here, have come to look upon European pathology as something marvelous and almost unattainable. Prof. Tuffier draws the veil. He said:

"The superiority of American laboratories for scientific surgery is incontestable, and great praise is due the Rockefeller research institute. Thanks should be given for its results in a nation which was once accessible only to business, but has now become seized with a passion for science. The Pasteur institute, which lacks a laboratory for experimental surgery, is unable to compare with the Rockefeller institute."

The hygienic section of the Academy of Science and Art of Pittsburg, Pa., has announced plans for a floating hospital for its patients. It will be manned by a full crew of doctors and nurses, and will be for patients while they are awaiting admission to the state or county hospitals. Moving picture shows throughout Allegheny county are to be asked to set apart a day when pictures showing the ravages of the white plague will be shown, the proceeds to go toward the maintenance of the hospital. A considerable sum has been subscribed, and it is expected to have the boat ready for patients in the early summer.

LETTERS TO THE EDITOR

Miss Mary M. Riddle Is Honored.

To the Editor of THE MODERN HOSPITAL:

The inclosed notice I send at the request of Mr. Bray, chairman of the trustees of the Newton Hospital, who thought it would be fitting for some mention to be made in THE MODERN HOSPITAL of the tribute paid to Miss Riddle by the people of Newton.

EMMA M. NICHOLS, R. N.,
Superintendent of Nurses Boston City Hospital.

On Thursday, March 26, 1914, a dinner was given by the people of Newton, Mass., in honor of Miss Mary M. Riddle, the superintendent of the Newton Hospital. It commemorated the completion of ten years of active work, which has been noted for progress, cooperation, and service to humanity.

Those present will never forget the sincere appreciation of Miss Riddle's personality and work as expressed by the speakers of the evening. The city officials, public-spirited citizens—and there were many—the visiting staff, and the consultants spoke of Miss Riddle as one deeply beloved and honored. Under her wise leadership the growth of the hospital has exceeded the expectations of those who have had its welfare most at heart. From a cottage hospital it has developed into a general hospital, with such a corps of able doctors and surgeons that it ranks second to none in standards and efficiency. The people of Newton may well take pride in the hospital which serves so well the needs of the people, and the world may well be proud of the citizens of Newton, who so loyally support the hospital.

Texas Wants to be Heard.

To the Editor of THE MODERN HOSPITAL:

I note your editorial, page 241, April issue, entitled "Hurrah for Iowa." We feel in Texas that we also are entitled to some notice for the work now going on.

The 1913 Legislature enacted a bill requiring the building of county hospitals in the counties having cities of 10,000 population and over, and permitting the building of county hospitals in all other counties. Our law calls for special elections for bond issues, and we believe this is superior to the Iowa law in that it makes available the sum needed for the construction of the hospital at one time. We understand that some of the Iowa counties can receive no benefit from the special tax plan of building the hospital because a sufficient sum cannot be realized by this method.

The county hospital law went into effect on July 1, 1913. Prior to that time our association built the Walter Colquitt Memorial Children's Hospital for cases of bone tuberculosis at Galveston, and succeeded in getting the county and city of Dallas to build a $50,000 tuberculosis hospital, with a capacity of 75 beds.

Since the county hospital law went into effect five counties have taken action. Bexar county voted a $125,000 bond issue, and will probably join with the city of San Antonio, which voted an equal amount, in building a $250,000 hospital; Fort Worth and Tarrant county united in building a $40,000 emergency hospital; Kleberg, a county just created by the last legislature, voted a $35,000 bond issue for a hospital; Wichita Falls and Wichita county voted a $50,000 bond issue for a hospital; and El Paso county voted $30,000, making a total of $400,000 to be expended for seven hospitals. When we consider that the last year has been a poor year for bond issues, because of financial conditions, we think the record is very good.

An election is pending in Jefferson county (Beaumont) for an issue of $140,000 in bonds. Texarkana, Sherman, and many other cities are considering the hospital proposition, and additional bond elections will be held during the present year.

Is there any other state that can show this record?

R. J. NEWTON,
Executive Secretary Texas Public Health Association.

Priority in Fine Service.

To the Editor of THE MODERN HOSPITAL:

The Woman's Hospital and Infants' Home in this city (Detroit, Mich.) was the first institution here to inaugurate a social service department, and I am sending you the second annual report, which gives detailed information regarding the excellent work done. Apropos of the editorial in your April issue, I believe that Harper Hospital was the first here also to demand of its staff a pledge not to split fees, with a penalty of being dismissed from membership if found guilty.

W. P. MANTON,
President Medical Board, Woman's Hospital.

Wants the Next Convention.

To the Editor of THE MODERN HOSPITAL:

It occurred to me recently—in fact, I have thought of it many times, and the thought has again impressed me—whether our convention could be induced to come here next year. I know that some of you good Yankees would hold up your hands in holy horror at the thought of going so far away from your native heath, but, after all, it is not any further from St. Paul or Chicago to Halifax than it is from Halifax to St. Paul or Chicago, and it would be somewhat of a novelty for some of your high-strung men and women to come down to the quaint old city by the sea, and listen to the "deep-toned neighboring ocean as in accents disconsolate it answers the wail of the forest."

W. W. KENNY,
Superintendent Victoria General Hospital, Halifax.

Criminal and Criminally Ignorant Hospital Boards.

To the Editor of THE MODERN HOSPITAL:

Not long ago a woman, eminent in the nursing world, who has been at the head of a large municipal hospital, has traveled extensively and visited many hospitals in many lands, said she didn't believe that there were more than a dozen training schools for nurses in this country in which a university woman would think it worth her while to train. Probably there are not more than a dozen schools in the country that can say they are attracting a sufficient number of applicants of the right sort. These schools are usually those that have the highest requirements rather than the lowest. Among the many reasons given for the scarcity of applicants, one sometimes hears that it is the loose moral conditions that prevail in some hospitals.

From what I have been told by people who know, such could easily be the truth, for there are hospitals in every part of the country where no self-respecting person could possibly stay, and where conditions verging from free and easy social deportment to actually criminal proceedings exist.

One hears of these conditions from reliable nurses, doctors, and patients, but we are loath to expose these places for fear of giving the public a false idea of general hospital conditions and making it more difficult than ever to staff our institutions. Perhaps this is not a sufficient ex-

cuse for remaining silent concerning an evil condition that should be remedied.

Now, what is to be done about it? Are doctors and nurses who know about these plague spots going to continue to ignore the facts? Following is a quotation from a letter recently received from a man eminent as a doctor and as an administrator: "Communities in this country want good hospitals, and, if they don't have them, it is due to one of two conditions—either they have not the money to conduct their hospitals in an efficient manner, in which case the institutions ought to be closed up, or the failure is due to incapacity on the part of doctors."

Sometimes the directors are unscrupulous as well as incompetent, and sometimes the medical staff is of the same sort. In such case what can be done unless the public takes the situation in hand? Would it not be better, however, if the medical profession attended to it? Municipal hospitals may not always measure up to an ideal standard of efficiency and honesty, but it is usually the private, commercial hospitals where the most flagrant faults are found. If it had not been for the abuses existing in this class of hospitals in California, it is doubtful if ever the eight-hour working law would have been applied to pupil nurses in hospitals.

A superintendent of a private hospital told me that one year when the interest on money invested was only 40 percent, the stockholders considered it a very lean year. In this hospital, as in many others, the social behavior of some members of the staff was such that it was almost impossible to keep self-respecting nurses in the service, although good salaries were paid. There are eastern hospitals in the same category.

In the middle West I know of one hospital of which a former member of its staff says: "The hospital now is almost empty because the people of the ghetto (for whom the hospital was built) have a well-defined notion that to go to the ——— Hospital is almost suicide, and this is true, because they die when they go there, and they die because these criminal physicians have not only criminal intent, but are criminally ignorant."

Ought not the state board of health have authority to inspect all hospitals where charity patients are admitted? As some states now have nurse inspectors of training schools, who visit hospitals not only as critics, but as consultants, ought not the hospitals themselves be inspected by an expert medical administrator, who might be appointed from the American Hospital Association, and who could report to the local board of health, which should be empowered, if such reports were unfavorable, to corroborate such report, and to tell the hospital how to remedy its defects, or else compel it to close its ward to the helpless poor? Ought there not to be the utmost publicity in all institutions established for charitable purposes or in those that maintain nursing schools?

Following is a letter written to me by a trustee of a small hospital, whom I have never seen, but who, having been appointed to the training school committee, has been reading nursing literature:

"Small hospitals, with training schools that are designed by boards of trustees for utilitarian purposes, have much to answer for. Too many training schools are issuing diplomas that, in substance, certify to residence for a continuous term of months at some hospital where the holder has been a very satisfactory maid of all work. Laymen who constitute governing boards of hospitals that maintain training schools have not been impressed with the moral obligation they assume when inviting a young woman to enter the training school. The uppermost thought has been that it is an inexpensive and accepted method of paying for the care of sick people dependent on charity. The question of education seems to be incidental, and much is left to the pupils' power of mutual absorption during the day's routine. A few kindly disposed doctors give a few minutes' talk at regular periods, and at the end of a term of months a diploma in her hand gives her the privilege to invade the homes of the sick at so much per week, or perhaps to enter a hospital and assist in the making of nurses no better or worse than herself. Much good can be accomplished if an organized educational campaign could be conducted in the ranks of the laymen who govern hospitals. Thousands of these well-intentioned, conscientious men are big in their business world, but small in the knowledge that covers the details of hospital work, and utterly uninformed on the subject of nursing education. I have been in hospital work very actively for twelve years, and when I think of the utter ignorance of nursing education that blinded me for nine years, I wonder what use I have made of my eyes and ears."

I have quoted this letter to show what I believe to be the attitude of most people when they learn that there are other than the economic sides of hospital administration to be considered. Cannot THE MODERN HOSPITAL wage this educational campaign among trustees, boards of visitors, the medical staffs of every hospital in the country?

In the end the public would be better served if every hospital were closed until the public wanted it badly enough to support it adequately, and to see that, while ostensibly doing its work of charity, it was not a covering for criminal practices—for exploitation of patients or nurses.

It is my belief that there should be a definite code of ethics for the medical staff, and a superintendent backed by the board of trustees strong enough to enforce its observance.

A TRAINING SCHOOL SUPERINTENDENT.

The Educational Committee of the Pennsylvania State Board for Registration of Nurses, working in conjunction with a similar committee of the Pennsylvania State Nurses' Association, are striving to devise a system whereby all training schools of the city will realize the necessity of adopting a uniform course of instruction, so that their graduates will be equally capable of attending to the sick. The necessity of this system arises from the fact that a large percentage of the hospitals train their pupil nurses along some special line. A system is proposed whereby an affiliation may be accomplished of the special and general hospitals, thus assuring all pupil nurses a general training. Recognizing the necessity of special training in the technical nursing of contagious diseases, the Philadelphia General Hospital is considering a plan to send all pupil nurses from that training school, which is one of the largest in the country, to the Philadelphia Hospital for Contagious Diseases for a three-months' training.

The Sheltering Arms Hospital, Richmond, Va., recently celebrated its twenty-fifth year of service to the city's poor. This institution was founded by Miss Rebecca Peterkin and some of her friends at a time when there was no refuge, except the city home, where the destitute could find free medical or surgical treatment, regardless of religious faith, nationality, social standing, or age. It had an humble beginning, no endowment, no assured income, and only a meager equipment. At first not more than half a dozen patients could be cared for at a time, and these were attended by a single nurse, whose salary was paid by the little board of women responsible for the undertaking. The hospital now has 43 beds and 15 nurses are in daily attendance. Six hundred and fifty-three patients have been cared for in the last year, and 163 of them were strangers in the city. No charge of any kind is made.

NEW INSTRUMENTS and APPLIANCES

Vincenz Mueller, Technical Editor.
Geo. W. Wallerich, Associate Editor.

A New Plaster of Paris Cutter.

BY DR. WALTER NEWMANN, HEIDELBERG.

A simple and comparatively cheap instrument for the quick removal of plaster of paris casts was devised some time ago by Dr. Newmann, and the instrument has been put on the market under the name of the "Rapid" plaster cutter. This plaster cutter works automatically, and cuts

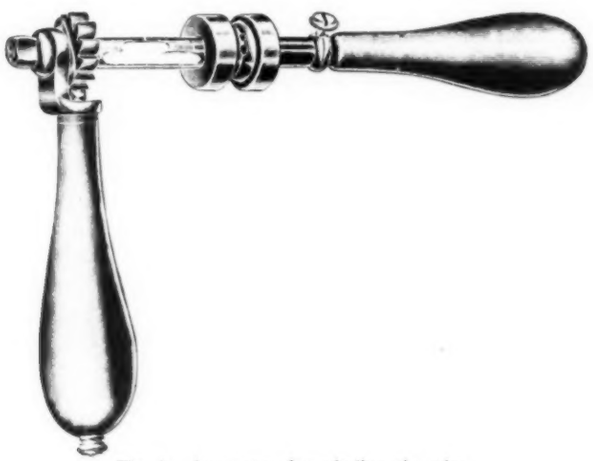


Fig. 1. Apparatus for winding the wire.

by means of a steel wire, which may be used repeatedly. The instrument consists mainly of two parts, the apparatus for winding up the steel wire and the steel wire (Fig. 1). When casts are to be removed, the surgeon proceeds in the following manner in applying the cast: After the cotton padding or stockinet has been put on and before application of the plaster of paris bandage, a double length of strong cord furnished with the instrument is laid on top of the stockinet or cotton padding (Fig. 2), with the ends extending about 6 inches at either end. This cord serves later to pull the steel wire through under the cast. In order to prevent the cord from becoming imbedded too tightly, it should be pulled back and forth before the cast is completely hardened. When the cast is ready for removal, cut off a piece of the wire (also furnished with the instrument) a little more than twice the length of the plaster cast, bend it on one end so it forms a small hook, slip it through a loop in the cord, and pull the wire through to the other end. After this bring the longer end of the wire back over the cast and fasten both wire ends

Fig. 2. Method of imbedding the cord.

Fig. 3. Cutting the plaster cast.

into the handle of the instrument, work the lever back and forth (Fig. 3), and in a few seconds the cast is cut through.

The principal advantages claimed for the new cutter, as compared with the instruments in use now, are that the plaster casts are removed very quickly with the least exertion and without an injury or scratching to the skin of the patient, as there are no cutting parts put between the skin and the cast; and the apparatus is economical, as it is of practically unlimited durability, and there is no expense for sharpening scissors or knives, etc. The cutter will not cut through stockinet or padding, and consequently the wire must be drawn between the padding and the cast, but the harder the cast the better the wire will cut. This instrument has become very popular in clinics and hospitals abroad on account of its simplicity and usefulness.

An Electrical Substitute for the Pacquelin Cautery.

This apparatus seems to have certain advantages over the Pacquelin thermo cautery. While the points or burners are of the same shape as those used with the Pacquelin cautery, the apparatus requires no alcohol, cautery bulb, or other accessories which have always made the Pacquelin cautery more or less unreliable. The electro cautery, somewhat after the style of the ordinary cautery electrode, is used, but, instead of a coiled or some other form of platinum wire, the arrangement permits of heating a platinum bulb, round or oval point. The various shapes of tips are shown in the illustration (Fig. 1). The heating unit, consisting of platinum wire in spiral form, is insulated by means of the molded lava bushings. These

bushings prevent the heated wire from touching the walls of the platinum cover. As the platinum cover is air-tight, the heat generated by the coiled platinum wire is confined to such an extent that the cover becomes quite hot in a remarkably short time. Provision is made for easily changing the tip should occasion require, as a lock nut,

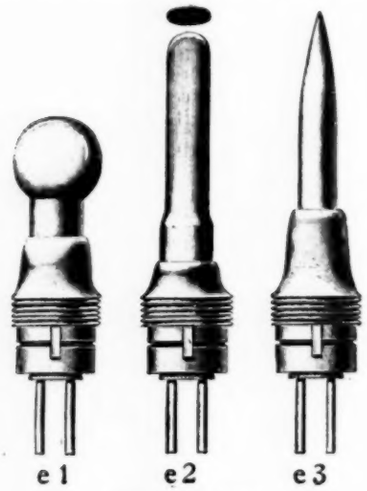


Fig. 1. Burners for electric cautery.

which is always within easy reach on the shaft of the handle, allows the removal of the tip, even though it is warm. While nearly any standard form of cautery transformer can be used for heating these tips, the one which the manufacturer furnishes has just the correct capacity to bring the heat to the right point. This is an advantage

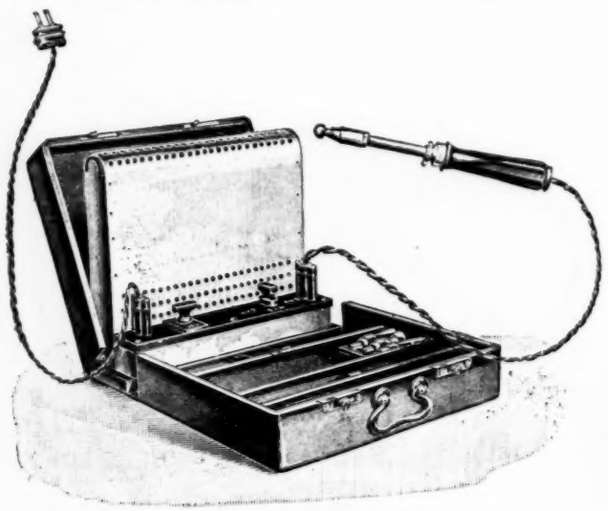


Fig. 2. Transformer for electric cautery.

for the reason that, if the cautery transformer is variable in its output, the nurse or assistant might easily burn out the cautery electrode by giving it too much current. This is one feature which has made electro cautery burners more or less unpopular in the past, but, if the amount of current could be predetermined in each case, and the transformer limited to the amount of current the burner would take, there would be no burned-out electrodes. The transformer (Fig. 2) is very efficient, as it consumes but five amperes of current at 110 volts, and can be used on either direct or alternating current. The entire equipment can be quickly set up or dismantled, and a compartment for each attachment is arranged in the case with the cautery transformer.

Steam Sterilizing Apparatus for Eye Knives, Scissors, Etc.

DESIGNED BY DR. STROHSCHEIN.

It is a well-known fact that many eye surgeons are not satisfied with the methods in use at present for sterilization of eye knives and other cutting instruments necessary for this work—namely, by immersing them in alcohol or by means of formaldehyd vapor—and a good many surgeons insist that their knives be sterilized by boiling before they consider them fit for use.

Sterilization by boiling or by ordinary live steam, however, affects the edges of knives, and discolors and often rusts the blades and makes them unfit for use. If the handles of eye knives are made of aluminum (which is

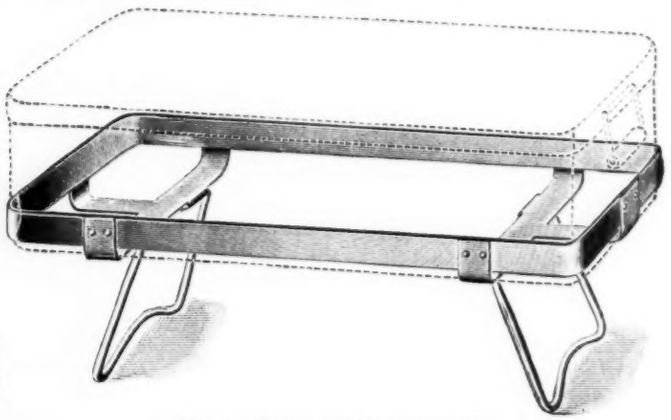


Fig. 1. Steam sterilizing apparatus.

very popular for this purpose on account of its lightness), boiling renders them porous and unsightly. It is for these reasons that surgeons have been looking for some new method of sterilization to overcome these defects, and this has been found in a new apparatus devised by Dr. Strohschein. The apparatus is a steam sterilizer, but, owing to its ingenious construction, does not damage the edges of the instrument, or discolor the blades, or destroy the handle.

The sterilizer (Fig. 1) consists of two separate boxes, one fitting inside the other. The cover C of the outer box A has a hole in the middle, through which passes a steam escaping tube, which is brazed on top of cover D of the

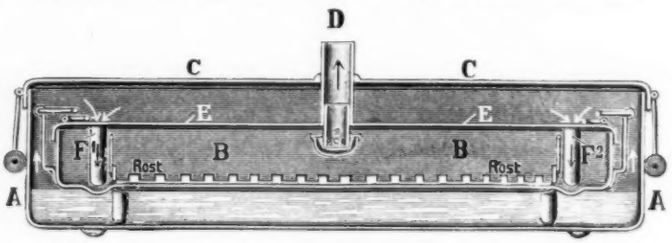


Fig. 2. Cross sectional view of steam sterilizing apparatus.

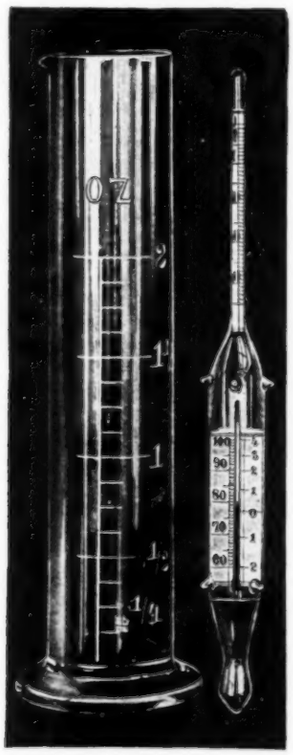
inner box, containing the instruments and a removable rack for knives, scissors, etc. In addition to this there are brazed in the cover of the inner box B four tubes which reach downward almost to the bottom of the inner box. The outer box is filled with water up to the bottom of the instrument container, and when the water is being heated the steam will pass up to the top of the outer container and down through the four tubes into the instrument container, and escape through the top of the outer or water container. The reason the edges of the instruments are not damaged, the blades not rusted or the handles discolored, is that the instruments are not in the water, and while the water is being heated the instruments take on

the same temperature, so that when the steam passes through the instrument container the condensation of the steam cannot settle on the blades, as is the case when instruments are sterilized by boiling or in the ordinary steam sterilizer. The time of sterilization is about twenty-five minutes, and therefore somewhat longer than sterilization by the present method in use, but it has been proven that by this method the instruments are rendered absolutely free from bacteria, kept dry and clean, and the edges are left in the same good condition as before sterilization.

The size of the outer box is 13x18½x8½ c. m., and the size of the inner box is 34x16x3 c. m. It will be seen that the outer sterilizer is fully large enough to hold any of the instruments used by the eye, ear, nose, and throat surgeons, and the apparatus can therefore be used not only as a sterilizer for eye instruments, but as a general sterilizer. A stand with folding legs is furnished with the outfit. The water is heated either by alcohol or gas burner, or an electric unit may be attached to the bottom of the water container. The workmanship is the best. The pans are each in one piece and seamless, the handles are riveted and brazed, and the whole outfit is heavily nickel plated.

A New Urinometer.

Among the apparatus used for urinalysis, the urinometer is one of the most important for the reason that it is frequently employed to determine conditions of health or disease, without reference to other determinations, under certain conditions where it is necessary to arrive at conclusions quickly. It seems, therefore, very important that



New urinometer.

the laboratory worker should have at his disposal an instrument which is absolutely reliable. It is a fact, however, that most of the cheap urinometers which are being offered to the profession are not made with the main point in view—that of accuracy—but rather with a view of how cheaply they can be produced and sold.

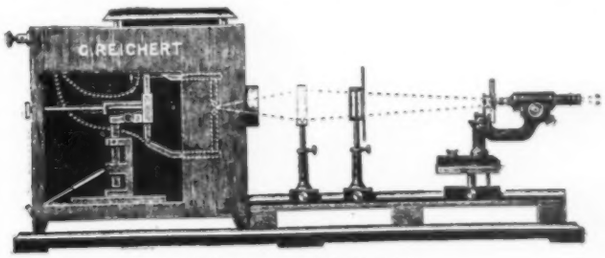
The careful laboratory worker will, therefore, be glad to hear that a standard urinometer has recently been put on the market by the Taylor Instrument Company, of Rochester, which seems to embody in itself all the requirements which the more exacting specialists in this work would demand.

The scale on this urinometer is hand written for the purpose of greater accuracy, and is combined with a thermometer and correction scale, so that very correct determinations of specific gravity may be made. It is standardized at 77° F. (25° C.) If the temperature of urine should be above 77° F., add; if temperature of urine be below 77° F., subtract, as noted on correction scale.

The urinometer jar has a wide base and is graduated. The air chamber on this instrument has around it small glass projections, so that the capillary attraction will not influence it, as it cannot become fast to the sides of the urinometer jar. The determinations for correction were made by actually weighing at different temperatures, as represented on correction scale. This is usually done by computation, but for greater accuracy a standard was made by carefully testing and determining each point, so that it would be a real standard urinometer.

Fluorescence Microscope.[1]

The fluorescence microscope is an instrument with which microscopic objects may be studied in fluorescent light, objects being rendered fluorescent by exposure to ultra-violet radiation. The apparatus serves to intensify the effect of ultra-violet light, which cannot be used for microscopic observation in the ordinary way owing to the feeble impression which it makes on the retina of the eye. Ultra-violet light has the remarkable power of causing the emission of fluorescent light from many substances on which it may fall. The color of the fluorescent light, as a rule, varies with the chemical nature of the fluorescing



Fluorescence microscope.

object. Observation by fluorescent light furnishes, therefore, a means of bringing into view differences in the appearance and constitution of objects which cannot be recognized by ordinary light.

Since fluorescent light appertains to the visible part of the spectrum, a fluorescent object can be viewed with ordinary objectives and eyepieces made of glass. The illuminating system, on the other hand, must necessarily consist of media which transmit ultra-violet light. A suitable light is furnished by an electric arc lamp burning with carbons. The carbons are of a special impregnated kind, emitting a light which is rich in ultra-violet rays. Lamps taking as little as 4 to 5 amperes will give satisfactory results with intensely fluorescent objects and when objects

[1]Reprint from the Physical Zeitschrift, vol. XII, 1911. C. Reichert: Das Fluoreszenz-Mikroskop.
Reprint from the Zeitschrift für Wissenschaftliche Mikroskopie und für mikroskopische Technik, vol. XXXVIII. O. Heimstaedt: Das Fluoreszenz-Mikroskop.
Reprint from the Bericht der Deutschen Botanischen Gesellschaft, vol. XXIX, 1911, No. 10. Ueber Reichert's Fluoreszenz-Mikroskop und einige damit angestellte Beobachtungen über Chlorophyll und Cyanophyll.

are viewed under a low magnification. The light emitted by the lamp is concentrated on the substage condenser of the microscope with a quartz lens.

To eliminate all visible rays from the fluorescent light which reaches the object, an absorbent light-filter is necessary. The light filter is of the kind designed by Wood and Lehmann. It has, however, been found an advantage to modify the usual arrangement, and accordingly the two fluid filter components are contained in a double trough, which is quite distinct from the solid uviol glass component. This is a great advantage in that the uviol glass may be used by itself after the removal of the trough with the solutions. In many cases—as, for instance, when feebly fluorescent substances are being viewed—this is a great convenience. With both filter components removed, the other parts of the fluorescence microscope are available for studying the physiological influences of ultra-violet light on living organism.

The microscope is provided with a quartz condenser, arranged to produce dark-ground illumination. This form of condenser is necessary to prevent ultra-violet rays from being transmitted from the object to the objective, as this would render the lenses of the objective fluorescent, and, by thus flooding the field of view with light, interfere with the observation. The method of dark-ground illumination affords the only means of obtaining satisfactory results, and this applies also to feebly fluorescent substances and to objects viewed under high powers. The dark-ground condenser is so arranged that it admits of rapid transition to illumination by transmitted light when the appearance of the object is to be controlled by ordinary microscopic examination. The apparatus is fitted with an iris diaphragm for this purpose. The objects should be placed or mounted on slides made of quartz, which is transparent to ultra-violet light. The cover-glass and all optical media situated above the object consist of ordinary glass.

The fluorescence microscope comprises the following parts: (1), a powerful radiant, rich in ultra-violet light; (2), an illuminating system capable of transmitting ultra-violet light; (3), a filter for partly or wholly absorbing the visible light emitted by the radiant; (4), a special dark-ground condenser, with quartz lenses; (5), an ordinary microscope, with objectives and eyepieces of the standard type; (6), an optical bench, with revolving microscope base for accommodating the above parts in perfectly centered alignment; (7), object slides of quartz or uviol glass to transmit ultra-violet light.

While too new for its full usefulness to be yet known, it may be stated that this instrument enables easy recognition of many forms of food adulteration, as ergot in wheat, cocoa shells in cocoa, etc.

After working for it for more than twenty years, the towns of Tonawanda and North Tonawanda, N. Y., are to have a joint municipal hospital. It was made possible by a philanthropic and public-spirited citizen, Leland S. DeGraff, who last fall offered to pay half the cost of a $40,000 building. Enough to bring the fund up to $50,000 has been raised and the work of construction is in progress.

Burt H. Whitely, a wealthy manufacturer of Muncie, Ind., has deposited securities with a local trust company, the income from which will amount to $10,000 a year and will be used to care for the charity cases of the city that require hospital treatment. The gift is conditional on all of the work being done at the home hospital, under the direction of Dr. George Andrews, who once saved the life of Mr. Whitely from an attack of anemia.

DEPARTMENT *of* NURSING

Mary M. Riddle, R. N., Editor,
Superintendent Newton Hospital, Newton Lower Falls, Newton, Mass.

The Training of the Psychopathic Nurse.

BY M. A. NUTTING,

Department of Nursing and Health, Teachers' College, Columbia University, New York City.

There is no point of view from which this subject may be approached that is not important, since it appears to be indisputable that every step forward in the development of better methods of diagnosis, of care and treatment, and of scientific study in this class of diseases must, to be truly effective, be accompanied by corresponding developments in methods of nursing. Equally true does it appear to be that measures of prevention through education or other methods cannot be well initiated and properly carried out without the aid of suitably trained women.

The first and largest need is in those hospitals, public and private, in which the mentally sick are cared for. While much progress has been made in these institutions, there is still obvious need for a good deal of improvement in the character of the nursing; it is indeed urgent in some of them. Until quite recent years the care of sufferers from mental troubles was largely custodial in nature, the word "attendance" describing fairly correctly the character of much of the work done for such patients. And, so long as mental troubles were little understood, their causes all but unknown, the cure doubtful, the chief essential in their care seemed to be to insure watchful and kindly attendance and protection. Nursing as we today understand it was not recognized as a necessity.

As we pass out of that stage of thought and begin to look on mental disorders exactly as we look on other forms of sickness, with possibilities of improvement or cure, depending on an intelligent and skillful treatment, good nursing becomes at once an essential and indispensable factor in the situation; for the diagnostic and therapeutic methods of modern medicine and surgery cannot be properly applied to those patients without the cooperation of a competent nursing staff. The medical inspector for the New York State Commission in Lunacy, Dr. William L. Russell, says that "nothing has contributed more to the hospitalization of asylums than the establishment in them of training schools for nurses."

Miss Annie W. Goodrich, whose duties as inspector of training schools in the state of New York call her into the state hospitals for the insane, points out interestingly the difference in the care of patients in two types of institutions—the one in which the work is largely done by attendants, and the other in which it is done by student nurses in training. She says the difference is marked, and it lies not only or chiefly in greater external order, precision, cleanliness, but in that all-pervading, yet almost indescribable, thing known as tone or spirit. The outlook, the point of view, of the student nurse is usually wholly

different from that of the attendant. In the one instance the effort is to keep the patient clean, comfortable, and contentedly occupied; in the other the interest is scientific as well as humane—it is concerned with the progress of the patient, with the effect of treatment, with those changes in attitude and behavior which may be very fine, very subtle, yet very significant. Such conditions, on which correct diagnosis and adjustments of treatment depend, are apt to elude any but the intelligently interested and closely observant student.

To those familiar with the dependence of physicians on nurses in our great teaching hospitals it will seem quite clear that wherever physicians are engaged in the serious study of mental disorders, in experiment and research, there will be needed to supplement their efforts the work of educated and carefully trained nurses. It is difficult to see how the proper study of insanity can take place, how physicians can carry through all the stages of experiment which appear to be indispensable to progress, without the constant use of those observations which hardly anyone but the nurse, who lives with her patients in the wards, is in a position to make. Dr. Richard Cabot, who has done much to stimulate us to better effort, has more than once noted the fact that we are not yet in our general medical work making full use of the observations for which we are peculiarly dependent on nurses. He says, "Especially in symptomatology and therapeutics the nurse has a far better opportunity than the doctor to make discoveries, because she sees so much more than he does of the effects of treatment and of the details of symptoms from hour to hour."

The proper nursing of the mentally sick, however, important as it is, is not the chief contribution which nurses may eventually make in this field of work. Now that we have revealed to us certain well-defined causes of insanity and others recognized, but as yet dimly defined, this whole work takes on a new aspect and a new life. To the knowledge that proper medical treatment and nursing of mental disorders insures a large hope of recovery is added the knowledge of infinitely greater significance—that causes are known and can be dealt with—and thus measures for the prevention of insanity are taking a prominent place in medical thought and action of the day. Among these measures, education stands in the forefront. It is the clearest of duties to get into use speedily such knowledge on this subject as is available and usable by the ordinary man or woman, and to do this in as many ways and through as many agencies as can be accepted for the purpose. One should have little hesitation in urging that nurses, and visiting and school nurses in particular, may be reckoned among the valuable agencies in getting before the people in a direct and simple way some of this needed information and instruction. For nurses do enter freely into homes, are usually welcome visitors, and may, if they are able, penetrate deeply into the problems of home and family life.

Armed with more definite and wider knowledge of the causes of insanity, and given some specific training in the observation and care of patients with mental disorders, they could take advantage, such as they are not now able to take, of the opportunities which lie actually in their daily paths. It seems probable that a good many unrecognized or neglected patients might be found and placed under proper care, and it seems certain that the influences and environment of children in their homes, which are likely to culminate later in the production of mental troubles, might be recognized and in some degree changed. From this standpoint alone the teaching by nurses of the vast and far-reaching importance of childish habits may be among the most fruitful of their daily tasks. Nor should we exclude from this obligation the vast army of private nurses, who, going from household to household, may find exceptionally valuable opportunities for presenting in the plainest and simplest way some of the important facts relating to the production and to the prevention of insanity—that chance for prevention which exists, according to Dr. Starr, in about 35 percent of all cases.

Pathetically little can be done in any of these directions until we have found some way of giving a suitable place to this subject in the regular training schools in which our nurses are educated. If you ask if some such instruction should form a part of the training of every nurse, the answer should be, Yes. First, because there is no way by which the nurse can insure that she will not have to meet and care for mental disorders as a complication of ordinary diseases in the course of her regular work, and, second, because of the increased importance of mental disorders and the larger place they are taking in medical and public interest. Insanity appears to be increasing. Dr. Russell speaks of it as a "rising tide." Dr. Rosanoff says that it is increasing at a rate which is about twice as great as the rate of increase of the general population. Whether the real increase is as great as it seems, this much at any rate appears to be true—the actual number of patients with mental troubles to be cared for is increasing everywhere. This fact alone makes an undeniable appeal to nurses, which through them should eventually react back on our schools of nursing; for, if these schools are to meet the needs of the times, they must carefully study the expanding field in which nursing knowledge is to be applied, enlarging their curricula and adjusting their methods of instruction to include new conditions of disease, or better understanding of old ones. The recognition of insanity as a disease seems, therefore, to have brought a new obligation to training schools.

This important special branch of nursing should not be left out of consideration, to be handled entirely independently of the general scheme of education for nurses; For such special training should at all times rest on a basis of general training. It should be placed at a stage in the education of the nurse when she is well grounded in her preliminary sciences, and has sufficient command of nursing principles and methods to be able to apply them under new and peculiar conditions; for it must constantly be kept in mind that many mental troubles are based on physical disorders, not infrequently of a grave nature; that many also are constantly accompanied by bodily ailments and weaknesses, and that the death rate in insanity is high. Every resource which the student nurse has learned to apply in her medical and surgical nursing may be called into requisition here. The student, therefore, should have had a considerable training in general nursing before proceeding to this special branch, more difficult, more complex, baffling often even to the most intelligent efforts and study, and making in all instances a new and special demand on faculties trained to comprehend in some degree the nature of these demands. Dr. Albert Ferris, president of the New York State Commission on Lunacy, very clearly shows what is needed. "Medical care," he says, "and nursing should be as complete as in the case of any other grave form of illness. The tenderest nursing is essential from the start, since the earliest treatment is often the most important," and he draws a charming picture of the conditions under which such nursing should be done, of the impressions and influences which should surround such

patients as a part of their treatment—an ideal psychopathic ward in fact.

In a few of our great teaching hospitals such departments have been established, and at the Albany, Bellevue, and Johns Hopkins hospitals, students from the training schools are taking a period of training in mental work as a part of their regular course. It is learned from Miss Taylor, the supervising nurse of the Phipps Psychiatric Clinic in Baltimore, that a good many of the students become so deeply interested in the work that they beg for longer training, and doubtless this is true of the other institutions. This is, of course, precisely what is looked for and desired. It is from such students, those who have shown particular interest, aptitude, and fitness—whose interest, in fact, impels them to seek further and more thorough preparation—that the special workers in this field of mental or, as it is here called, psychopathic nursing will be drawn. It should rank as one of the higher branches of nursing.

While as yet the hospitals with psychopathic wards or departments are few, institutions for the care of mental diseases are many, and abundant opportunities could doubtless be secured in some of them for instruction and training. There should be little difficulty in arranging for the admission of student nurses for a definite period—say, three or four months—in their senior year, and it is to be hoped that a good many of our older and leading training schools will ultimately effect some such relationship.

Probably the best next step would be the provision of a few really satisfactory courses of post-graduate study and training in mental nursing, something which would reach and interest the large body of graduate nurses—courses in the formation of which all the resources of the institutions offering them were called on, the instruction worthy of serious consideration, the practical work kept within rational limits for a student body. To such a scheme of instruction a social service department might contribute a valuable part. It seems probable that a psychopathic hospital with a well-organized teaching plan could receive both students in training and graduate students. But, of course, to do either in any adequate way, it must look far beyond the problem of its own current needs and approach the matter as an educational branch of work, to be handled as such.

The great importance of the subject from the standpoint of the individual and of our entire social system is a sufficient reason for an urgent effort to bring more and better trained workers to its problems. And the unusual interest and enthusiasm of those nurses who are already at work in this field is an incentive and an encouragement to those who would follow.

Nursing in Infancy and Childhood—The Premature Baby.

BY HENRY F. KEEVER, M. D.,

Assistant in Pediatrics Harvard Medical School; Junior Assistant Physician Children's Hospital, Boston, Mass.; Assistant Physician Newton Hospital, Newton, Mass.

A premature baby is one born before term. Few premature infants born before the twenty-seventh or twenty-eighth week live, or if the weight is less than two pounds, or the length less than thirteen inches. Morse says,[1] "The premature baby is not merely a small baby, it is an undeveloped baby. It is not ready to be born or to live under extra-uterine conditions. It is intended to float in warm water of constant temperature; instead, it has to be handled and exposed to air of all degrees of temperature. Its circulation is compelled to change from fetal to adult form months before it is ready. It is compelled to breathe air into lungs only partly ready for use. It must use digestive organs only partly completed, instead of obtaining nourishment through the circulation; it is not prepared for an independent existence, and has to depend for its life on organs only partly ready to perform their functions."

All the weaknesses of the infant at term are exaggerated in the premature. The function of the sweat glands is not developed and the heat centers are poorly developed. Consequently low temperatures are poorly borne. They lose heat rapidly, and a single chill may cause death. Their resistance to infection is very slight.

Morse further says that the two objects in the care of a premature infant are:

1. To keep the baby alive.

2. To develop the organisms to the stage reached at full term.

For this, two things are essential:

a. Maintain animal heat.

b. Provide suitable food.

The premature infant should be handled as little as possible. It should not be picked up nor disturbed, or regarded as a curiosity. It should be protected from light, noise, and handling.

Incubators will maintain a constant temperature, but ordinarily do not furnish a constant supply of fresh air. The best and simplest substitute is a padded crib and hot-water bottles. The temperature of the crib should be from 90° to 95° F. and the temperature of the room should vary from 80° to 85°. The crib should be protected from drafts.

A premature baby should not be bathed, because of the undue exposure and the tendency toward chilling. It should be oiled every second or third day and wrapped in a gown of quilted cotton. Absorbent cotton is best for diapers, which should be changed without removing the infant from its crib.

Breast milk is the ideal food for the premature. It should be expressed from the breasts by means of a breast pump or by massage, and fed through a Breck feeder at one-and-a-half-hour intervals. If breast milk cannot be obtained, then a whey cream mixture should be used, because of the solubility of the proteids.

A sudden drop in temperature is always a danger signal, and prematures are apt to die suddenly without apparent cause.

GASTRO-INTESTINAL INDIGESTION.

One of the commonest conditions the nurse will be called on to meet is gastro-intestinal indigestion, especially during the warm summer months. It is brought on by:

1. Improper food. The mixture is usually too high in fat, although one of the other elements, sugars or proteids, may be at fault.

2. Hot weather. Heat apparently reduces a baby's resistance, so that milk formulas which it can digest with ease in cooler weather, frequently bring on most acute digestive upsets during the heated term.

3. Neglect. Tends to reduce the general resistance of the child.

The most common symptoms are:

a. Temperature.

b. Vomiting.

c. Diarrhea, with frequent foul, green stools, containing curds, mucus, and sometimes blood and pus. When the last two elements are present, special precautions must be taken, as these cases are often of a highly infectious nature, and may easily infect other infants. The napkins and bedding should be kept separate and be thoroughly

[1] John L. Morse, "Care and Feeding of Premature Infants."

sterilized, and the nurse must be most careful about her personal asepsis, washing her hands thoroughly after every contact with the child.

4. Prostration is sometimes very marked, and in the severer cases the actual loss of weight and strength is appalling.

The treatment depends on the individual case. It is a good general principle to clean out the entire gastro-intestinal tract, preferably with castor oil. Should colon irrigations be needed, they can best be given with warm saline, using a dram of salt to a quart of warm water. The irrigation is most effective if given with a soft rubber catheter, French No. 20, continuing the flow of warm saline, temperature 100° F., until the wash water returns clear. The catheter must be thoroughly oiled and introduced six or eight inches into the rectum. Care must be taken lest it coil on itself.

CATARRHAL LARYNGITIS (CROUP).

This is caused usually by an extension of a catarrhal condition of the nose and pharynx to the larynx. The lumen of the larynx in infancy and early childhood is so small that even a moderate swelling of the laryngeal mucous membranes may cause sufficient stenosis to give rise to obstructive symptoms. These are:

1. Temperature.
2. Hoarseness.
3. Cough and dyspnea.

The child is as well as usual during the day, and as evening approaches becomes hoarse, with a slight cough. During the night it suddenly awakes with a harsh, metallic cough, and has great difficulty in breathing, which may last for an hour or two. On the following day the child seems well and bright, but it is common for the attack to recur the following night.

TREATMENT.

The treatment is to keep the child in a warm room of even temperature—72°; steam inhalations of compound tincture of benzoin, 1 dram to a quart of steaming water. This may be made most effective if the crib is covered with a sheet or an umbrella, and the steaming kettle placed beneath. Hot applications placed over the chest are often helpful in relieving the spasm. Care must be taken not to have the cloths too hot, and it is usually well to vaseline the chest before making any local application. When the stenosis and obstruction seem very great, relief may often be obtained by making the child vomit. Usually a teaspoonful of wine of ipecac is sufficient for this purpose.

MEMBRANOUS CROUP (LARYNGEAL DIPHTHERIA).

The onset is similar to ordinary croup, with dyspnea, cough, etc. The exciting agent is the Klebs-Loeffler bacillus, and these children, instead of improving after the initial attack, become progressively worse. There are no remissions as in ordinary croup. The treatment consists in giving generous doses of antitoxin, and intubation if necessary.

Some Efforts for Legislation.

IN MASSACHUSETTS.

"They've got a brand new organ, Sue,
For all their fuss and search,
They've done just as they said they'd do,
And fetched it into church."

This, it may be, is a few steps in advance of the position of the amendments to the registration law for nurses in Massachusetts. The amendments were returned to the Legislature by the public health committee on March 31, 1914, with the report, "No cause for legislation."

Many forces conspired to accomplish this, but the chief opponent used quite as much reason and logic in the arguments presented as did the old lady of the verse who bemoaned the times and saw the world going rapidly to perdition because, forsooth, a new form of worship had been introduced into her chosen church. The poor old lady of the verse was sincere, as was doubtless the opponent to legislation; and, like the opponent, she forgot the salient points in the issue—she forgot the meaning of worship and forgot for the moment its spirit, while the opponent forgot that these are not the early days of the previous century. The lapse of memory was even greater in the latter case because the opponent decried the objectionable points in the present law, forgetting that they are the result of the selfsame opposition that was exercised five or six years earlier by the same opponent.

Notwithstanding the fact that the proposed amendments (which were indorsed and recommended by the state board of registration for nurses) did not become law, the nurses felt that they gained ground and made headway.

The public press was favorable in its comments and made friends for the "bill." To quote, "The bill now before the public health committee aims to make a two-year course in a hospital training school of recognized merit a prerequisite. . . . This step is distinctly in the public interest. It is necessary for the protection of society that some fundamental standard of merit be established, of which the title of registered nurse will serve as an adequate guarantee. At present it does not, and we have a right to feel sure that those who attend the members of our families in sickness are properly qualified if we want such a guarantee," etc.

It may be there will be evidences of discouragement among the nurses, but while there remain the sick to be nursed back to health there is no time for discouragement and repining. It is the part of the good soldier to turn his weapons of warfare back into pruning hooks and ploughshares, and then keep them busy.

Maybe when our opponent and the old lady are again compared, it will be his turn to say:

"They've done just as they said they'd do."

IN NEW YORK.

The progress of the proposed amendments to the nurse registration law in New York has been well set forth in the *American Journal of Nursing*. Whether they shall be entered on the statute books as law remains to be seen, but certainly the nurses may be proud of "the company they keep." It speaks well for any cause to have it espoused by such men as Dr. John H. Finley, head of the state department of education, and Dr. Herman M. Biggs, state commissioner of health, who is reported as saying in the presence of a large gathering, "The adoption of the bill now before the Legislature is essential in order to put nursing on a plane of efficiency and standing, where it will attract women of the character and ability needed for such work."

Others who strongly indorsed the bill for the regulation of public nursing as a measure of protection to the public against the dangers of incompetent treatment were Prof. C. E. A. Winslow, curator of public health of the Museum of Natural History; Dr. Augustus Downing, of the state department of education; Dr. Winford H. Smith, formerly of Bellevue Hospital and now of Johns Hopkins University, and Miss Lillian D. Wald, of the Henry Street Settlement, and many representative men and women, physicians, hospital and training school managers, as well as employers of nurses.

Practically all the nurses are in favor of the bill—

superintendents of nurses and teachers of nurses, and those who have built up the schools, as well as the leaders in public health and social service nursing, and (as a correspondent in the New York *Evening Post* puts it) "sisters of charity, and others, whose whole time is spent in providing skilled nursing for the people of small means, and who would therefore not be likely to advocate any measure which would work injury to the poorest family. These women are asking, not that the unqualified woman should be compelled to earn her living in some other way, but that the law should so define the practice of nursing as to make it clearly known to the public who is or is not qualified to give expert nursing care to sick people, and to make it compulsory that women who hold themselves out to be nurses should fit themselves for this service by a certain term of hospital training."

Keeping Up the Standards.

There seems to be a wide interpretation of the "standards" we hear so much about in training school work. There is, too, a little impatience sometimes expressed or implied, or at least felt, at hearing this theme harped upon so constantly. But there need not be impatience or the slightest annoyance, for it is at once the slogan, the incentive, and the compensation of the nurse teacher. It means to her unremitting toil—not by the hour or the day, but by the night and the day and the year.

To attain and maintain her standards is her incentive, because she sees beyond the present work and knows that her compensation must come in the better care to patients. There are standards of admission and standards of work in training as well as standards for graduation and for work afterward, but to the conscientious nurse these all mean increased comfort and opportunities for the sick and they can mean nothing else.

Some one says, "Good nurses are born, not made, and give me the young woman of quick perception, keen intelligence, with good common sense and a good heart, and it does not matter about her education," etc. Very well, she is a prodigy, and there are so few in her class that it is not necessary to plan for her; moreover, she can take care of herself, but think what she might have become if she had had a little previous training.

Standards must be set for the young woman of average endowment by nature, because she is of the kind most commonly to be dealt with and trained. Other things being equal, she will become the nurse of greater attainments if she has something to begin with—a good education, with good breeding.

If it were possible to change our rallying cry for one of equal force in securing results, surely it would be taken up and reiterated all up and down the ranks until every sick man, woman, and child should feel its influence with comfort and renewed courage with vigor.

Heads of Training Schools and Members of Nursing Association to Hold Convention at Halifax.

The annual meeting of the Canadian Society of Superintendents of Training Schools for Nurses, of which Miss V. L. Kirke, superintendent of nurses of Victoria General Hospital of Halifax, is president, will be held in Halifax, N. S., on July 8 and 9 next. Addresses and papers on the following subjects have been promised: "Preliminary Training," "The Standard Curriculum," "Are Our Nurses' Training Schools Educative?" "Paid Teachers in the Training Schools," "The Care of Nurses," "Nursing Ethics," "The Management of the Smaller Hospitals," "Nurses' Residences and Their Supervision," "Nursing Principles Instituted by Florence Nightingale," "Nursing in Contagious Diseases," "Massage."

Those having the matter in hand are also hopeful of procuring something in the way of papers on nursing conditions in the Yukon and Labrador. There will be a question drawer and a literary table, for which a good supply of hospital and nursing journals and other literature has been promised.

The closing of this convention will be immediately followed by the opening of the convention of the Canadian National Association of Trained Nurses, of which Miss Margaret MacKenzie, superintendent of Victoria Order of Nurses in Canada, is president. This meeting will be held on July 10 and 11. On Sunday, July 12, a special meeting will be held in the interest of general nursing work.

UNIQUE HOSPITAL FOR NEW HAVEN.

Architectural Shape of Greek Cross Gives Every Room an Outside Window.

The $250,000 Physicians and Surgeons' Hospital to be erected in New Haven, Conn., the coming year will be built in the form of a Greek cross, every room to be an outside room. It is to be of gray Portland cement, rough finished, with red trimmings and green tile roof, and will be four stories high. The total capacity of the institution will be sixty-six patients, twenty-eight in the wards and thirty-eight in private rooms, but the plans have been drawn in such a way that a wing containing room for 100 beds can be added at any time and still all of the rooms will be outside ones. On the first floor are located the boiler room, the laundry, apparatus for the administration of the various kinds of physiotherapy and mechanotherapy, including dry hot air, electricity, hydrotherapy, mechanical vibration, x-ray, electric light, etc. A lecture room, with proper equipment for illustrating lectures, will also be provided on this floor. The second floor will contain the administrative offices, four 4-bed wards, two 6-bed wards, fourteen rest rooms, a dark room for the examination and treatment of patients suffering from diseases of the eye, ear, throat, and nose, the general reception room, a consultation room, and four private rooms, with private bath room connected. The third floor is given up to private rooms of different grades, dressing rooms for special nurses, and the head nurse's private office. On the fourth floor will be the operating suites, consisting of two surgical operating rooms, two etherizing rooms, two surgeons' preparation rooms, a surgical nurses' preparation room, and storage room for surgical instruments and dressings. The roof will be utilized for kitchens, the dining rooms, the solariums, and separate recreation rooms for patients, nurses, and servants. The elimination of noises has been given much consideration. All of the private rooms will be surrounded by double gypsum block walls, and the entrances will be provided with two doors—one of wood hung on the inside for common use, and the other of metal filled with asbestos hung on the outside. The floors of the building will be covered with heavy cork linoleum cemented to the understructure. The ventilating system is said to be excellent. Each room will have an individual flue. It is expected that this new hospital will be ready for occupancy early in the fall of 1915.

In the death of Mrs. Abram H. Cushman, of Peabody, Mass., who enjoyed the income of a trust fund of $40,000 during her life, that amount reverts to the J. B. Thomas Hospital.

QUERIES *and* ANSWERS

Covering for Hot Pipes.

To the Editor of THE MODERN HOSPITAL:

Do asbestos coverings on pipes have any other advantage than saving in loss of radiation of heat?

A. P. M. H., Philadelphia, Pa.

None, except to cut down the dangers of fire due to overheated pipes, provided the work is properly done and the insulation carried through all partitions and outlets.

To Keep Air in Circulation.

To the Editor of THE MODERN HOSPITAL:

During the hot season of the South, to keep the air in circulation in a ward 42x16 feet, with a 16-foot ceiling, having three large windows on the west side and two on the south end, and two doors opening into the corridor on the east side, can you give us advice on which kind of electric fans to install—ceiling fans with four blades of 21 inches each, or the oscillating 12-inch circular electric fans, and how many of each?

We enjoy THE MODERN HOSPITAL very much, and you may not find our name on your list of subscribers, as a friend made us a Christmas present of your magazine, and it reaches us monthly.

MENIA S. TYE, R. N.,
Superintendent Sparks Memorial Hospital, Fort Smith Ark.

The better results will be obtained by the use of the ceiling fans, as described, dropped from the ceiling to approximately 9 feet from the floor. It would require at least four fans of the ordinary type to induce sufficient movement of air to afford relief in hot weather. If beds are arranged on both sides of the ward, the fans would better be evenly spaced down the center of the ward. The fans would be more efficient if the blades were inclined slightly upward from the center—say, about 3 inches higher at the tips than at the center. In case this is done, the fan should be 8 feet above the floor.

LOUIS R. CURTIS,
Superintendent St. Luke's Hospital, Chicago.

Water Supply for the Hospital.

To the Editor of THE MODERN HOSPITAL:

Kindly inform me on the following points: What is the best or most serviceable wood for use in constructing a water tank, and which is the least expensive? What do drillers charge for boring for water, or do they have any set scale of charges? Is a windmill a satisfactory method of pumping water for storage? We have about thirty people under our roof on an average, with about twenty taps in the building and grounds; what would be an adequate sized tank to insure a water supply that would be ample.

J. C., Norfolk, Neb.

1. Cypress, fir, red cedar, tamarack, and pine are the best tank material in the order named. Lumber prices vary in localities according to distance from source, but the last two woods should be the cheapest. If the tank is exposed to the elements, it would be an economy to treat the outer surface with creosote, except where cypress is used. You might look into the question of building your tank of metal, with silica lining. The Pfaudler Company, Rochester, N. Y., which makes these tanks for hospital laundry chutes and for beer vats in breweries, has had its attention called to this as another field for its excellent material.

2. Drillmen charge anywhere from 50 cents to $2 per foot for striking water, according to local conditions. United States geological report gives a 92-foot water average in your part of the state.

3. Unless the storage or reservoir capacity is ample to tide over windless periods, a windmill is not reliable. A small gasoline engine belted or geared to the pump jack is better and costs less to install.

4. A 100-barrel tank should serve your needs, and at an elevation of forty feet would give a pressure of thirty to thirty-five pounds at the faucet.

Counterbalance of Elevators.

To the Editor of THE MODERN HOSPITAL:

Please give me the needed ratio of counterbalance as per inclosed figures, and oblige?

W. E. D., Findlay, Ohio.

The proper counterbalancing of electric elevators is an item of great importance, and the amount of counterweight is figured from the average load that the car carries. At the speed you give, if the car weighs 2,000 pounds, the counterweight should be 50 percent greater, which would place a lifting strain on the motor of only 1,000 pounds with the car loaded at maximum, and the same figure would apply to the downward trip with no load. Would advise you to get in touch with the manufacturers of your elevator, if possible, and not trust such a job of conversion to a mechanic not well versed in elevator construction.

When to Buy Hospital Cotton.

To the Editor of THE MODERN HOSPITAL:

Please advise what is the best time of year to buy hospital cotton? We always receive a large number of offers on this product during the spring months, but prices seem to be no better than in September. Is there any real advantage in buying now?

CLAUDE A. DOTY,
Superintendent Bell Memorial Hospital, University of Kansas, Rosedale, Kan.

Prices of cotton products are largely subject to the manipulations of the New York cotton gamblers. The New England mills depend for their economical operation on the ability of their managers to successfully compete in these gambling transactions. Sometimes the destination and disposal of the whole crop of a year are arranged before the seed are planted. Under these conditions it will readily be believed that the time of year has very little to do with prices. Sometimes raids are made on the market in the winter, and they may be made at any time. Sometimes the mill owners wake up and find that the crop is practically cornered and that they have to pay the artificially fixed prices. Of course the boll weevil, droughts, and a dozen other factors are concerned in the manipulation, just as the wheat pit makes use of all these factors.

The best way for a hospital to do is to get in friendly touch with one of the mill representatives. I have personally found that these men are to be relied on. Get them to keep you posted about prices. I have bought half a million yards of gauze at a time and five tons of absorbent cotton on the advice of one of these men, and I never regretted it. You can make a contract for delivery, so much at a time, as you need it, bills to be rendered as deliveries are made. You will agree in the contract to take the total amount of the contract within the specified time. Have a clause in your contract protecting you against a

raise in the price, and giving you the benefit of any fall. I have bought enough for two or three years in this sort of contract.

JOHN A. HORNSBY.

Cost of Electric Service.

To the Editor of THE MODERN HOSPITAL:

Since our hospital was built we have been purchasing electricity from the city plant at 10 cents a thousand watts, but a manufacturing concern which has just put in a new power plant offers to supply us at 6 cents a thousand if we will pay for the connecting wires to their building and a meter; but we have been using alternating current and theirs is direct current. Would you advise making this change, and would we have to change any of our present wiring or equipment in order to utilize this different current? What does a meter cost? Our current bills have been averaging $21 per month, and the directors are in favor of making this change.

B. B. L., Peoria, Ill.

A saving of $8.40 per month is well worth while, provided the service is the equal of that which you are now receiving and is available at all hours and on holidays, and not liable to shut down and leave you in the dark.

You would require no change in wiring or equipment, provided the voltage is the same as at present, nor would different lamps or heating appliances be necessary; but alternating current motors will not operate on direct current circuits and vice versa.

A meter will cost between $14 and $18, according to capacity.

Do not make a change like this without a written contract covering the quality of service to be given.

TUBERCULOSIS HOSPITAL CONSTRUCTION.

London's Local Government Board Issues Bulletin Setting Forth Principles of Architecture, Including Costs.

Plans of hospitals and sanatoriums for tuberculosis patients are occupying the serious attention of architects, administrators, and health officers abroad as well as in this country. The local government board of London has just issued a bulletin, prepared by its architect, Mr. Brook Kitchin, and its medical officer, Dr. Newsholme, for the purpose of aiding in the construction of these special hospitals. Much attention is given in the bulletion to the cost of such structures, showing how inexpensively they may be put up on short notice.

The unit taken has been 100 beds, with 10 additional beds in outside shelters. Dealing with the selection of a site, it is advised that this should be sufficiently large to permit of open-air employment of a considerable number of patients. If land is available at a low cost, it is desirable that a site of fifty acres should be provided for 100 patients, but twenty acres may suffice for 100 patients where land is difficult to obtain or its cost high. In all cases at least one-fifth of an acre per patient should be allowed.

The plan of the building depending on the stage of disease of the patients to be admitted, the cases to be accommodated are classified into groups as follows: (A) cases in which permanent improvement or recovery may usually be anticipated; (B) cases in which only temporary, though possibly prolonged, improvement may be anticipated; (C) advanced cases requiring continuous medical care and nursing; (D) cases requiring special observation.

The sleeping accommodation provided for patients is commonly one or more of the following types: (1) single-bedded rooms, for patients requiring a considerable amount of nursing; (2) two-bedded rooms, suitable for all types of patients except those just referred to; (3) beds on both sides of a ward as in the ordinary hospital; (4) shelters, single- or double-bedded, suitable for patients in groups A and B, who are able to be up and about all day.

Accompanying the bulletin are the following plans: (1) block plan of a 100-bed sanatorium with three separate pavilions; (2) block plan of a 100-bed sanatorium with a single pavilion; (3) ground plan of staff block; (4) first floor of staff block; (5) plan of dining hall and kitchen block; (6) plan of nursing pavilion for 36 beds; (7) plan of convalescent pavilion for 32 beds; (8) plan of two-storied pavilion for 100 beds; (9) plan of two-storied pavilion for 100 beds (alternative design).

The accommodation should be so arranged that a floor space of at least 64 square feet will be available for each patient; the distance between the centers of the heads of any two adjoining beds should not be less than eight feet measured along the wall behind the heads of the beds. Patients' rooms should not be less than 8 feet 6 inches high; wards should be higher, but may be carried partly into the roof and ventilated by openings in the gable ends. Doors should be made on the "stable-door" pattern, so that in inclement weather the lower portion may be closed while the upper portion is left open. They should be constructed in the form of French casements, with a clear opening of not less than 3 feet 6 inches, so that beds may easily be wheeled through them. Windows should preferably be of the casement pattern and hung "to fold" without mullions. Baths should be provided on a scale of about one to twelve patients, and water closets on the same scale. Spray baths may also be provided. If veranda accommodation is not quite adequate, day shelters, which should be of inexpensive construction, will be needed.

In view of the importance of continuous open-air treatment, patients should not be encouraged to collect in a recreation room, except for a very limited time or on special occasions. It is therefore suggested that the dining room would suffice for purposes of recreation, lectures, etc. It will usually be unnecessary to heat the patients' quarters, excepting the dining hall and some of the rooms for patients requiring special nursing, and a system of low-pressure hot-water heating will be found most economical for this purpose. Electric lighting should be employed where electric current is available or can be economically produced. Where, owing to local circumstances, the use of brickwork would be economical, cheap bricks may often be employed, faced externally, if necessary, with rough-cast or cement. Walls in exposed positions should be of hollow construction. In some districts other materials may be less expensive and may be employed, such as steel framing carrying terra-cotta slabs, or concrete slabs or blocks plastered internally and cemented externally, or timber framing lined internally with asbestic sheeting or expanded metal lathing plastered with a hard setting plaster, rough-cast or coated externally with weather-boarding chemically treated.

Plans and specifications for a new sanatorium at Washington, D. C., have been submitted to the incorporators of a company for the new Chevy Chase Sanatorium in the fashionable suburb of the city. This site has been chosen by the members of the medical profession for the open-air facilities. It will be a modern affair, of central administration offices, with ample verandas and sleeping porches. The interior will consist of large sun parlors and lounging rooms. The building will be three stories and cost $20,000. George P. Hales is the architect.

AMERICAN HOSPITAL ASSOCIATION

Photographer in Pennsylvania Claims to Represent American Hospital Association—Association Has No Such Representative.

To the members of the American Hospital Association:

I am informed that a man in the state of Pennsylvania is visiting hospitals, taking photographs, and claiming authorization from the American Hospital Association. The president has instructed me to inform you that the association has no traveling representative, and has not authorized anyone to take pictures for the next convention.

H. A. Boyce, Secretary.

Noncommercial Exhibit at St. Paul.

Hospital workers are constantly improvising instruments, apparatus, and equipment of every conceivable kind to meet their peculiar needs. The best things on the market today and the most useful were the makeshifts of yesterday, designed by ingenious hospital workers to meet some immediate and pressing demand, without ever a thought that tomorrow would see them eagerly welcomed by the hospital world. Therefore the hospital people should take great interest in the noncommercial exhibits at our conventions, and should contribute to them.

Everyone who has anything to show, no matter how simple, and the simpler the better, should write to Miss Lydia Keller, Cobb Hospital, St. Paul, chairman of the committee, and make arrangements to take it or send it to the convention. There are no charges of any kind, and those who attend the convention are always deeply interested in new things.

Don't say, "But it is such a simple little thing!" So much the more reason why other hospital people should know about it.

Officers of the American Hospital Association Issue Circular on Importance of Organization.

Economy and efficiency are two indispensable combinations in hospital work today. Trustees demand that their superintendents shall have an up-to-date knowledge of how to operate the different departments of a hospital to obtain highest efficiency with the least expenditure of the public's money.

The object of the American Hospital Association is the promotion of efficiency and economy in hospital management. The problems and difficulties of hospital management are so many that no superintendent, no matter how resourceful, can solve them for himself. Discussions and counsel with others is absolutely indispensable. The great agency that meets this need is the American Hospital Association. Its membership is the best of hospital workers. Its helpfulness is evidenced by its steady annual growth. The last meeting held at Boston was the largest and best in its history. The one this year at St. Paul, from August 25 to 28, will be still larger and better.

Already, over four months in advance, three hundred have applied for conveyance to the convention in the association special train from Chicago. Can any hospital superintendent afford to stay outside this band of hospital workers? Can any do without its help and inspiration? Can any member afford to miss the St. Paul meeting?

Hospital boards are now picking their superintendents from the members of the association. If you are not already a member, send your name to Dr. Boyce, secretary, Kingston, Canada. You will promptly receive a copy of the transactions of the Boston convention. Do it now.

American Hospital Association Growing at the Rate of Nearly 1,000 for This Year—Additional List.

The new spirit of cooperation to speed the growth of the American Hospital Association seems to have taken firm hold, and it is most encouraging for hospital efficiency all along the line to see the new members coming in. Why not set the convention attendance mark at 1,000 members—if not at St. Paul, at San Francisco in 1915?

Below is the list of new members since last publication. There are seventy names. If this rate can be maintained, the St. Paul meeting will be great.

Sister Mary Austin, superintendent of nurses, St. Francis Hospital, Smiths Falls, Ont.; Dr. Charles Bowman Bacon, superintendent New York City Hospital, Blackwell's Island, New York City; Miss Sarah C. Barry, superintendent of nurses, Providence City Hospital, Providence, R. I.; Dr. Donald E. Baxter, assistant superintendent City Hospital, Minneapolis, Minn.; Dr. Charles Boldman, hospital physician, Tuberculosis Preventorium for Children, Department of Health, New York City; Miss Claudia M. Boskill, superintendent of nurses, Kingston General Hospital, Kingston, Ont.; Dr. Joseph M. Burnett, hospital physician, Providence City Hospital, Providence, R. I.; Dr. Henry A. Christian, hospital physician, Peter Bent Brigham Hospital, Boston, Mass.; Miss Bertha Cohen, superintendent Mt. Zion Hospital, San Francisco, Cal.; Dr. Lewis A. Conner, hospital physician, New York Hospital, New York City; Dr. Dwight E. Corie, hospital physician, Union Hospital, Fall River, Mass.; Dr. Thomas S. Cullen, hospital physician, Johns Hopkins Hospital, Baltimore, Md.; Dr. James Allmond Day, superintendent and owner James Allmond Day Hospital, Jacksonville, Ill.; Dr. Thomas Alan Devan, assistant superintendent Peter Bent Brigham Hospital, Boston, Mass.; Dr. E. G. Dittmer, treasurer and trustee Park View Hospital, Manchester, Ia.; Miss Kathleen A. Dowd, superintendent of nurses, Wm. Backus Hospital, Norwich, Conn.; William A. E. Drescher, trustee Rochester General Hospital, Rochester, N. Y.; Dr. Chas. Alfred Dukes, hospital surgeon, Samuel Merritt Hospital, Oakland, Cal.; Dr. D. Gordon Evans, assistant superintendent Queen Alexandra Sanatorium, Davos Platz, Switzerland; Miss Sara E. Foulks, superintendent Davenport Hospital, Davenport, Ia.; Dr. A. C. Frost, hospital physician, Ladysmith General Hospital, Ladysmith, B. C.; Dr. John H. Graves, member Hospital or Charities Association Francis Hospital, San Francisco, Cal.; Dr. W. D. Haggard, hospital physician, Vanderbilt and St. Thomas Hospitals, Nashville, Tenn.; Dr. Frederic Hagler, hospital surgeon, St. Louis City Hospital, St. Louis, Mo.; Mr. Henry L. Hall, governor Muhlenberg Hospital, Plainfield, N. J.; Mr. Geo. P. Hart, trustee New Britain General Hospital, New Britain, Conn.; Mrs. Mabel Hills, superintendent Parkersburg City Hospital, Parkersburg, W. Va.; C. Floyd Haviland, assistant superintendent Kings Park State Hospital, Kings Park, Long Island, N. Y.; Miss Susan E. Holmes, superintendent Dr. Abbott's Hospital, Minneapolis, Minn.; Miss Astrid Hofseth, R. N., superintendent Tuomey Hospital, Sumter, S. C.; Dr. Francois L. Hughes, hospital surgeon, St. Luke's Hospital, Philadelphia, Pa.; Miss Edith R. Jeffries, first assistant superintendent Saginaw General Hospital, Saginaw, Mich.; Dr. Wm. A. Jenkins, hospital physician, Louisville City Hospital, Louisville, Ky.; Miss Eliza Johnson, superintendent of nurses, Louisville City Hospital, Louisville, Ky.; Dr. Arthur P.

Jones, hospital surgeon, Pawtucket Memorial Hospital, Providence, R. I.; Dr. John W. Keefe, hospital surgeon, Rhode Island Hospital, Providence, R. I.; Mrs. Ira A. Kip, Jr., trustee Orange Memorial Hospital, South Orange, N. J.; Dr. W. H. Lake, assistant superintendent Society of Lying-in Hospital, New York City; Dr. H. R. Lathrop, superintendent and owner Casper Private Hospital, Casper, Wyoming; Miss Mabel E. Lamberson, R. N., assistant superintendent Central Maine Hospital, Lewiston, Me.; Dr. Mary C. MacInnis, superintendent Oaks Sanitarium, Los Gatos, Cal.; Dr. Jackson M. Mills, hospital physician and surgeon, New York City; Miss Mary B. Miller, superintendent of nurses, Wilkesbarre City Hospital, Wilkesbarre, Pa.; Dr. David C. Morton, hospital physician, Louisville City Hospital, Louisville, Ky.; Miss Anna C. Maxwell, superintendent of nurses, Presbyterian Hospital, New York City; Judge C. H. Nye, trustee Painsville Hospital, Painsville, Ohio; Dr. Geo. A. Peck, trustee New Rochelle Hospital, New Rochelle, N. Y.; Miss Florence Potts, superintendent Hospital for Sick Children, Toronto, Ont.; Miss K. M. Prindiville, superintendent Joseph Lawrence Free Public Hospital, New London, Conn.; Miss Loise M. Powell, R. N., superintendent of nurses, University Hospital, Minneapolis, Minn.; Dr. A. E. P. Rockwell, hospital physician, Worcester Hahnemann Hospital, Worcester, Mass.; Dr. Cary P. Rogers, surgeon, St. Luke's Hospital, Jacksonville, Fla.; Miss Maude L. Rowland, assistant superintendent Saginaw General Hospital, Saginaw, Mich.; Dr. K. I. Sanes, surgeon, Western Pennsylvania Hospital, Pittsburg, Pa.; Dr. Asa N. Sargent, hospital physician, Salem Hospital, Salem, Mass.; Dr. C. H. Schaeffer, trustee Allentown Hospital, Allentown, Pa.; Dr. N. H. Scheldrup, surgeon, Swedish and Deaconess Hospital, Minneapolis, Minn.; Mr. David A. Smith, supervising trustee Dr. W. H. Groves L. D. S. Hospital, Salt Lake City, Utah; Mr. Morley A. Stern, trustee Rochester General Hospital, Rochester, N. Y.; Miss Kathryn J. Ulmer, assistant superintendent Noble Hospital, Westfield, Mass.; Miss Lydia R. VanLuvanee, superintendent of nurses, St. Peter's Hospital, Helena, Montana; Mr. Hiram Walker, trustee Walkerville General Hospital, Walkerville, Ont.; Mr. Allen Wandwell, trustee New York Red Cross Hospital, New York City; Dr. Joseph D. Weis, physician, Touro Infirmary, Charity Hospital, New Orleans, La.; Dr. Meyer Wiener, surgeon, Jewish Hospital, St. Louis, Mo.; Miss Annie A. Williamson, R. N., superintendent of nurses, California Hospital, Los Angeles, Cal.; Miss Alma M. Viehdorfer, R. N., superintendent Allentown Hospital, Allentown, Pa.; Miss Mary Workman, superintendent of nurses, All Saints' Hospital, McAlester, Okla.; Miss Katharine Weber, R. N., superintendent of nurses, Olney Sanitarium, Olney, Ill.; Miss Anna K. Younglove, superintendent Elyria Memorial Hospital, Elyria, Ohio.

The announcement comes from Portland, Ore., that a private open-air sanatorium for the treatment of persons afflicted with tuberculosis will be established at the town of Bend in that state in the near future. Plans already perfected provide for a one-story building 200 feet long, the open rooms to be arranged on the "Scotch butterfly" plan. The first unit of the building is to accommodate 20 patients, and cottages will be added as required. Provisions have also been made for a poultry house, a modern dairy, and facilities for entertainment and amusement. The site, which is in the foothills of snow-clad mountains, being at an altitude of 3,600 feet, in a place sheltered from wind and dust, is said to be ideal. In any case, however, in which it is found that the mountain climate is not agreeable, it is the intention of the promoters to remove the patient to Portland, where arrangements will be made to care for such cases. Dr. Edward Allen Pierce, of Portland, will be the managing director. Dr. Urling C. Coe, of Bend, will also be associated with the institution.

A company with a capital stock of $200,000 has been incorporated in California under the name of the Bellevue Hospital Association for the purpose of building and operating a hospital in Los Angeles.

HINTS FOR HOSPITAL SUPERINTENDENTS.

A sustained policy of cheerfulness throughout a hospital, in mental as well as physical ways, while highly contagious in itself, is the best disinfectant one can have against trouble. The results, while they may not be itemized, make no small showing in the annual report.

Where gasoline and kerosene are kept in the building, the gasoline can should be painted a brilliant red and the coal oil container a bright green, and they should bear their respective content names stenciled on them. Insurance statistics are replete with the disastrous consequences of getting the wrong can. Better still, fire apparatus companies sell distinctive containers for inflammatory fluids.

Don't keep the salesman that calls on you waiting an unnecessary length of time. If he has nothing of value, need, or interest to you, dispose of him quickly, but courteously, for if a manufacturer or supply house is paying a traveler 80 cents an hour in salary and expense, and you consume a needless fifteen minutes of his time, somewhere, sometime, somehow, you or some other hospital will have that 20 cents figured in the invoice.

Learn to read your gas and electric meters, and learn the meaning of cubic feet, watts, and kilowatt hours. Don't take the gas or power company's word for things. If you have reason to believe that your bills are excessive in proportion to the rate charged, you have the right to demand that your meter be tested for correctness in any city where electrical inspection is maintained.

Quite often it is found desirable to replace small dressing sterilizers with larger equipment, and the question of advantageously disposing of the present one is important. Barber shops will be found to be receptive customers for the small and medium-sized ones, and they are apt to bring a better second-hand price when sold through this channel than any other.

The third Thursday of the third month should be declared oiling day in the hospital, and a half hour should be given to the lubricating of a host of minor things that need it around the building, such as door hinges, locks, wheel stretchers, casters, elevator doors, operating tables, dumb waiters, etc. A good grade of sperm oil should be used, and it will be surprising to note the number of small noises, squeaks, rasps, etc., that will be on the missing list for the next three months. Don't put this matter off until Friday, the 13th, of next leap year.

The necessity of refreshing white enameled equipment, walls, woodwork, metal, etc., will be avoided, except at long intervals, if a small bottle, about 6-ounce, wide neck, is kept handy, filled with a rather thick consistency of enamel and provided with a camelshair brush running through the cork. When a chip occurs, flow enough of the thick enamel into the scar to fill it even with the raw edges, and let harden for two days; then rub with the moist palm for several seconds until the shade of the patch harmonizes with the tone of the general finish.

A good many hospital administrators fail to realize how much waste is connected with badly cared for refrigerators. Foods absorb smells and bad air. The refrigerators or ice boxes ought to be cleaned thoroughly every day with hot water and a good, pure soap. Then they should be rinsed out with hot water, without the soap, to

take away the soap smell. Refrigerator makers like to connect their brine-cooled refrigerators to the sewage system for a drain. This is not a good plan, because the very best traps give off odors. In the ice-cooled boxes there must be a drain for the melting ice, of course, but this empties to a pan underneath that can be cleaned every day, but the sewer trap cannot be. Better do without a drain and have someone, an orderly or man servant, in full charge of all the ice boxes, and hold him responsible for their being kept clean and dry. Praise him once in a while if they are nice and sweet and clean. Let him know that you think his job is of some consequence, and he will do a hundred percent better.

It is proposed to almost entirely reconstruct the older buildings of Bellevue Hospital, New York. Enough money will be asked of the Board of Estimate to replace the surgical ward for children, the tuberculosis ward, the contagious disease division, the psychopathic ward, and the administration pavilions. No figures are yet available regarding the cost of the projected improvement, but the total will be several millions. The first step in the systematic replacing of the older buildings was taken several years ago. As a result, a new surgical pavilion will be opened on May 1. It practically will double the present capacity of the hospital for the treatment of surgical cases, as the surgical pavilion now in use will not be immediately demolished. Another forward step which it is hoped soon will be taken by the city will be the authorization of a building for convalescent patients treated in their homes. Many of these patients receive practically no treatment during the period of convalescence, when especial care should be given to them.

Watch your operating rooms—some superintendents never go near them. You need not, and should not, interfere, except to help out in some situation that is causing trouble. If you are not a person with medical training, you can at least see that the surgeons are happy in their working conditions, that discipline and order are maintained. You can see that surgeons are not kept waiting by a bad system of procedure. You can see that patients are not kept waiting in the preparatory rooms, conjuring up in their minds all sorts of horrors as to what is going to happen to them until they are in no shape to go through the ordeal. A competent superintendent is needed in the operating rooms every day—at least for a cheery word and some small compliment here or there.

So many of our hospitals are now built for the sole purpose of affording the architect an outlet for his artistic taste that a great many monstrosities are perpetrated. One of the most pronounced of these is badly shaped windows. If the architect thinks that a low, broad window will look best from the outside, he builds it so, irrespective of any utilitarian purpose; or, if he thinks a high, narrow window will contribute toward his reputation as an artist, he will build it so. These badly shaped windows are unsightly from the inside, many times give a grotesque appearance to the rooms, and are an eyesore to hospital administrators. Draperies of some washable print stuff, with lace curtains over them, will tend to dress a low, wide window; and for the high, narrow windows a grill at the top, with very narrow cretonne draperies on the sides and reaching to the bottom of the grill, makes a very pretty effect. The effect will be greatly enhanced if table covers, couch covers, and dresser covers are of the same material.

LAMPS FOR HOSPITAL LIGHTING.

Peculiar and Exacting Conditions That Must Be Met in Hospitals—Comparative Values in Metallic Filament Lamps.

Several months ago it was suggested that present-day evolution in the economy, efficiency, and availability of incandescent lamps was so rapid that it was difficult for hospital administrators to keep posted. A good many inquiries have come to THE MODERN HOSPITAL on this subject, and, to answer some of these mooted questions, Mr. J. R. Colville, a lamp expert of Cleveland, whose opinions are of unquestionable value, was asked to write a paper on the subject, and to make some comparisons if possible. The following paper by Mr. Colville is the result, and THE MODERN HOSPITAL is pleased to be able to publish it:

HOSPITAL ILLUMINATION.

The illumination requirements of a hospital are perhaps as various and complex as any that will be met in illuminating engineering. The nature of the work in the hospital and the condition of the inmates are such that common lighting methods do not apply. In view of the fact that there are at present approximately 7,000 hospitals and allied institutions in this country, which expend more than $250,000,000 annually for maintenance, of which considerable goes for lighting, and that during the coming year about 600 new hospitals will be erected, it seems proper to call attention to the lighting requirements of hospitals and discuss the adaptability of the various types of modern illuminants.

The wards and the operating room require special attention, whereas the dispensary is comparable with a drug store, and the halls and corridors and the nurses' quarters may be compared to the halls and corridors of hotels and homes. The ward illumination is peculiar in that the patients are lying down instead of standing or sitting erect. Furthermore, the strained condition of the patients' nerves prohibits lighting conditions that would be satisfactory and comfortable for a healthy person. Physicians seem to agree that there should be a moderate intensity of light throughout the ward; that contrasts of light and dark areas should be avoided; and that means should be at hand for instantly and brilliantly lighting any section of the wards should an emergency arise.

The operating room presents a problem in lighting that has never been completely solved. A high intensity of illumination is required in order that the operating surgeon may distinguish fine details with certainty, and shadows must be avoided as far as possible. A lighting installation which throws no shadows of the room equipment is not in itself satisfactory, for the shadows that cause trouble are the ones formed within the recesses of the operation. Light must come from several directions in order to overcome this difficulty. Another very important consideration is the color value of the illuminant. In certain operations the colors which tissues assume under artificial light are of extreme importance. Undue heat must be avoided, for it not only causes discomfort to the operators, but sets up warm currents of air, which carry dust and bacteria and are known to spread infection.

There are a few precautions that apply to ordinary commercial lighting which will bear mention here. Glare and flicker must be avoided, and lights should be placed outside the normal range of vision. Beyond question, a healthy workman is less susceptible to annoyance from light than a hospital patient, and yet, while all forms of industry have taken advantage of progress in illumina-

tion design, it is a fact that hospitals, catering as they do to the comfort and restfulness of the sick, have been among the last to realize its importance.

Having briefly summarized the conditions that must be fulfilled by whatever lighting scheme is adopted, the characteristics of gas and incandescent electric lamps will be discussed.

Although gas lamps are used in some hospitals with more or less success, they are open to the objection of vitiating the air and causing currents of heated air to circulate throughout the room. Gas lamps are also inconvenient, are not adapted to use with reflectors, and require attention at frequent intervals. One of the strongest objections to their use is that they are not subject to instant control.

TABLE 1—DATA ON MAZDA LAMPS.

Straight Side.

Volts	Size of lamp in watts	Efficiency, W. P. C.	Type and size bulb	Diameter bulb, inches	Maximum over-all length, inches	Base regularly supplied	Standard package, quantity
	10	1.30	S-17	2⅛	4⅝	Med. screw	100
	15	1.25					
	20	1.17					
100 to 130	25	1.14	S-19	2⅜	5¼	Med. screw	100
	40	1.10	S-19	2⅜	5¼	Med. screw	100
	60	1.07	S-21	2⅝	5½	Med. screw	100
	100	1.02	S-30	3¾	7⅞	Med. scr. sk.	24
	150	.90	S-35	4⅜	8¾	Med. scr. sk.	24
	250	.90	S-40	5	10	Med. scr. sk.	12
200 to 260	25	1.33	S-19	2⅜	5¼	Med. screw	100
	40	1.28	S-19	2⅜	5¼	Med. screw	100
	60	1.23	S-21	2⅝	5⅞	Med. screw	100
	100	1.15	S-30	3¾	7⅞	Med. scr. sk.	24
	150	1.12	S-35	4⅜	8¾	Med. scr. sk.	24
	250	1.10	S-40	5	10	Med. scr. sk.	12
Round.							
100 to 130	15	1.25	G-18½	2 5/16	3¾	Med. screw	100
	25	1.14	G-25	3⅛	4¾	Med. screw	50
	40	1.10	G-25	3⅛	4¾	Med. screw	50
	60	1.07	G-30	3¾	5½	Med. screw	24
	100	1.02	G-35	4⅜	7¼	Med. scr. sk.	24
	400	.90	G-56	7	10⅞	Mog. scr. sk.	8
	500	.90	G-64	8	12	Mog. scr. sk.	8
200 to 260	25	1.33	G-25	3⅛	4¾	Med. screw	50
	40	1.28	G-25	3⅛	4¾	Med. screw	50
	500	1.10	G-64	8	12	Mog. scr. sk.	8

TABLE 2—EFFICIENCIES OF GEM LAMPS.

Straight Side.

Volts	Size of lamp in watts	Efficiency, W. P. C.
100 to 130	20	4.00
	30	3.00
	40	2.56
	50	2.50
	60	2.50
Round.		
100 to 130	50	2.5

Incandescent electric lamps are simple, reliable, economical, and can be obtained over a wide range of candle-powers. There are two classes of incandescent electric lamps, which are, however, widely different in respect to economy and color quality. Gem lamps, or metalized filament lamps, operate at about two and one-half watts per candle and give a yellowish light, while Mazda lamps operate at about one watt per candle and approach a daylight color value more closely. Mazda lamps can be obtained in sizes from 10 watts to 500 watts, corresponding to candle-powers of from 8 to over 550. These lamps are entirely self-contained, and burn without auxiliary apparatus directly in multiple across the line. The smaller sizes permit an even distribution of light of low intensity, and by the use of the larger sizes any desired intensity can be secured to suit special cases. They give a minimum of heat and are easily cleaned. When a lamp has served its useful life, it is only necessary to replace it with a new one. In respect to operating expense, a Mazda installation will, in practically all cases, be cheaper than a gas installation.

The Mazda lamps for multiple service up to and including 500-watt size are shown in table 1. Particular attention is called to the efficiencies of these lamps in comparison with the efficiencies of Gem lamps, shown in table 2. It will be seen that, for a given energy consumption, Mazda lamps give about two and one-half times the light of Gem lamps. The greater cost of the Mazda lamps is made up many times over by the saving in energy consumption due to their higher efficiency.

In the building of new hospitals or the remodeling of old ones, too much attention cannot be given to the lighting installations. The architect, the illuminating engineer, and the administrator should cooperate to insure a system of lighting that will be of pleasing appearance, efficient, and conducive to the comfort of the patients.

J. R. COLVILLE.

The Hospital Investigating Committee has recently furnished its report to the Board of Estimate of New York. It is based on a study of conditions existing in New York city hospitals. Bellevue and Kings County Hospital, especially Brooklyn, receive severe criticism. It is claimed that patients are transferred to Bellevue in a dying condition to prevent the death rate at private hospitals. Inexperienced house physicians and interns are accused of prematurely discharging patients when they are uninteresting cases, to provide for others of greater interest to students. It is claimed the Bellevue autopsy service is poor. It criticises the waste of hospital space, and states that the morgue of the Bellevue Pathological Building is idle from lack of agreement between hospital authorities and the Charities Department; that Bellevue is operated on the needs of medical schools rather than hospital efficiency.

Dr. J. W. Babcock, who recently resigned the superintendency of the State Hospital for the Insane at Columbia, S. C., after an incumbency of twenty-three years, has opened a private sanatorium at Waverly, that state, for the treatment of nervous and mild mental cases. Dr. Eleanora B. Saunders, also formerly connected with the Columbia State Hospital, will be associated with Dr. Babcock.

"The every-day management of a large ward, let alone of a hospital, the knowing what are the laws of life and death for men, and what the laws of health for wards (and wards are healthy or unhealthy mainly according to the knowledge or ignorance of the nurse)—are not these matters of sufficient importance and difficulty to require learning by experience and careful inquiry, just as much as any other art?"—Cook's Life of Florence Nightingale.